

# Power Management **IC**

Includes LAPIS Technology products

<b>Single-Output LDO Regulators - Product Table</b> .....	<b>29</b>	<b>Isolated and Non-isolated Type ACDC Converter</b> .....	<b>53</b>	<b>Power Management Switch</b> .....	<b>57</b>
<b>Linear Regulators</b> .....	<b>30</b>	Surface Mount SOP Packages Built-in 730V FET .....	53	1 Channel Compact High Side Switch ICs .....	57
78 series Regulators/Standard Regulator .....	30	Surface Mount SOP Packages Built-in 800V FET .....	53	Automotive 1 Channel Compact High Side Switch ICs .....	58
Single-Output LDO Regulators .....	30	High Heat Dissipation DIP Packages Built-in 650V FET .....	53	1 Channel Compact High Side Switch ICs (Industrial Equipment) .....	58
LDO Regulators with Voltage Detector and Watchdog Timer .....	43	High Heat Dissipation DIP Packages Built-in 730V FET .....	54	1 Channel High Side Switch ICs .....	58
LDO Regulators with Voltage Detector .....	43	High Heat Dissipation DIP Packages Built-in 800V FET .....	54	Automotive 1 Channel High Side Switch ICs .....	58
Voltage Tracker .....	43	High Power TO220 Package Built-in 650V FET .....	54	1 Channel High Side Switch ICs (Industrial Equipment) .....	58
Multi-Output LDO Regulators .....	44	<b>Isolated Type ACDC Converter ICs</b> .....	<b>54</b>	2 Channel High Side Switch ICs .....	59
Linear Regulators for DDR SDRAM .....	44	Built-in FET ACDC Converter ICs .....	54	Automotive 2 Channel High Side Switch ICs .....	59
<b>Switching Regulators</b> .....	<b>45</b>	Integrated SiC MOSFET ACDC Converter ICs .....	55	2 Channel High Side Switch ICs (Industrial Equipment) .....	59
Integrated MOSFET Switching Regulators (Buck Converters) .....	45	Isolated Type FET external ACDC Controller ICs .....	55	Load Switch ICs .....	59
Integrated MOSFET Switching Regulators (Boost and Buck-Boost Converters) .....	47	BCM Type PFC Controller ICs .....	55	Load Switch ICs (Industrial Equipment) .....	59
External Switch Switching Regulators (Buck Controllers) .....	48	AC Voltage Zero Cross Detection ICs .....	56	1 Channel Compact High Side Load Switch ICs .....	59
External Switch Switching Regulators (Boost and Buck-Boost Controllers) .....	48	Secondary Side Synchronous Rectification ICs .....	56	34V Pressure 1ch Compact High Side Load Switch ICs .....	59
For Automotive Switching Regulators .....	48	Isolated DCDC Converter ICs .....	56	2 Channel Compact High Side Load Switch IC .....	59
<b>Switching Regulators (System Power Supplies)</b> .....	<b>50</b>	<b>Gate Drivers</b> .....	<b>56</b>	Controller IC for High Side NMOSFET .....	59
System Power Supply ICs for Car Audio .....	50	Isolated Gate Drivers .....	56	Controller IC for High Side NMOSFET (Industrial Equipment) .....	59
System Power Supply ICs for LCD Panels .....	50	Others .....	57	<b>Wireless Power</b> .....	<b>59</b>
Programmable Gamma-Voltage Generator/Gamma Buffer Amplifiers .....	51	IGBT/MOSFET Low-side Gate Driver .....	57	Power Receiver LSI .....	59
System Power Supply ICs for DSC/DVCs .....	51	IGBT/MOSFET High-side Low-side Gate Drivers .....	57	Power Transmitter LSI .....	59
System Power Supply ICs for Automotive .....	51	Non-insulated Gate Driver for Battery Management System (BMS) .....	57	<b>Battery Management</b> .....	<b>60</b>
System Power Supply ICs for Industrial/Consumer Applications .....	52	<b>Temperature Monitor</b> .....	<b>57</b>	Battery Charger ICs .....	60
<b>Non-isolated type ACDC Controller ICs</b> .....	<b>52</b>	Isolated Temperature Monitor .....	57	Charge Protection ICs .....	60
Surface Mount SOP Packages Built-in 650V FET .....	52	<b>Power Management Switch</b> .....	<b>57</b>	Cell Balance IC of Power Storage Element Cells .....	60
Surface Mount SOP Packages Built-in 800V FET .....	52	1 Channel Compact High Side Switch ICs .....	57	Coulomb Counter IC .....	60
High Heat Dissipation DIP Packages Built-in 650V FET .....	53	Automotive 1 Channel Compact High Side Switch ICs .....	58	Li-ion Battery Monitoring LSI .....	60
High Heat Dissipation DIP Packages Built-in 800V FET .....	53	1 Channel High Side Switch ICs .....	58	<b>Voltage Detectors (Reset ICs)</b> .....	<b>61</b>
		Automotive 1 Channel High Side Switch ICs .....	58	Voltage Detectors (Reset ICs) .....	61
		1 Channel High Side Switch ICs (Industrial Equipment) .....	58	Over Voltage Detectors (Reset ICs) .....	62
		2 Channel High Side Switch ICs .....	59	Voltage Detectors with Adjustable Delay Time .....	62
		Automotive 2 Channel High Side Switch ICs .....	59	Voltage Detectors with Built-in Delay Time .....	62
		2 Channel High Side Switch ICs (Industrial Equipment) .....	59	Voltage Detectors for Automotive .....	63
		Load Switch ICs .....	59	Power Supply Monitoring IC for Automotive .....	63
		Load Switch ICs (Industrial Equipment) .....	59	Others .....	63
		1 Channel Compact High Side Load Switch ICs .....	59	Voltage Detectors with Watchdog Timer .....	63
		34V Pressure 1ch Compact High Side Load Switch ICs .....	59	Composite type Voltage Detector (2ch+Comparator) .....	63
		2 Channel Compact High Side Load Switch IC .....	59		
		Controller IC for High Side NMOSFET .....	59		
		Controller IC for High Side NMOSFET (Industrial Equipment) .....	59		

Power Management			
Linear Regulators	P.30	Switching Regulators	P.45
Switching Regulators (System Power Supplies)	P.50	Non-isolated type ACDC Controller ICs	P.52
Isolated and Non-isolated Type ACDC Converter	P.53	Isolated Type ACDC Converter ICs	P.54
Gate Drivers	P.56	Temperature Monitor	P.57
Power Management Switch	P.57	Wireless Power	P.59
Battery Management	P.60	Voltage Detectors (Reset ICs)	P.61

Linear Regulators			
78 series Regulators/Standard Regulator	P.30	Single-Output LDO Regulators	P.30
LDO Regulators with Voltage Detector and Watchdog Timer	P.43	LDO Regulators with Voltage Detector	P.43
Voltage Tracker	P.43	Multi-Output LDO Regulators	P.44
Linear Regulators for DDR SDRAM	P.44		

### Single-Output LDO Regulators - Product Table

Max. Rating Output Current Input Voltage	0.1A	0.15A	0.2A	0.3A	0.5A	0.7A	1.0A	1.5A	2.0A	3.0A	4.0A	External MOSFET
42 to 50V	BD42500G-C*2/3 BD42540FJ-C*2/3 ▶P.43		BD7xxL2*2 ▶P.30 BD4xxM2*1/2 BD4xxM2W*1/2 ▶P.31 BD4269FJ-C*2/3 BD42530EFJ-C*2 BD42530FP2-C*2 BD42530FPJ-C*2 BD820F50EFJ-C*2 ▶P.43	BD4269EFJ-C*2/3 ▶P.43	BD357xY BD7xxL5*2 BD4xxM5*1/2 BD4xxM5W*1/2 BD800M5*2 BD00EA5W ▶P.30 BD4271HFP-C*2/3 BD4271FP2-C*2/3 BD42754FPJ-C*2/3 BD42754FP2-C*2/3 ▶P.43	BD800M7WFP2-C*2 ▶P.30						
30 to 36V	BDxxFA1FP3 BD50FA1MG-M*2 BD00FA1WEFJ ▶P.33			BD3650FP-M*2 ▶P.31 BA3662CP-V5 ▶P.32	BA178Mxx*1 ▶P.30 BD3021HFP*2/3 BD3020HFP*2/3 BD3925FP-C*2 BD3925HFP-C*2 ▶P.43		BA178xx*1 BAxxCC0*1 BDxxC0AFPS*4 BDxxFC0FP BDxxC0A*1/2 BDxxC0AFPS-LB*4 BDxxFC0W*1 BAxxCC0W*1 BD00C0AWFPS-M*4 BDxxC0AW*1/2 ▶P.30, 31, 32		BAxxDD0T BAxxDD0W*1 BDxxFD0W ▶P.31			
18V							BAxxBC0*1 BAxxBC0W*1 BD37210AMUV BD37215AMUV ▶P.33, 42	BAxxJC5T BA00JC5WT ▶P.33				
15V				BDxxGA3*1/2/4 ▶P.35	BDxxGA5*2/4 ▶P.34, 35		BA1117FP BDxxGC0*2/4 ▶P.30, 34					
10V				BDxxHA3*2/4 ▶P.37	BDxxHA5*2/4 ▶P.36, 37		BDxxHC0*2/4 ▶P.36	BDxxHC5*2/4 ▶P.36				
6 to 7V	BHxxNB1WHFV BHxxRB1WGUT BHxxPB1WHFV ▶P.42	BUxxTD2WNVX*1 BUxxTD3WG*1 BUxxTA2W*1 BUxxSD2MG-M*2 BUxxJA2MNVX-C*2 BUxxJA2VG-C*2 BUxxJA2DG-C*2 BUxxSA4WGWL ▶P.40, 41	BHxxM0AWHFV ▶P.39	BDxxIA5*2/4 BDxxKA5FP BDxxKA5W*1 BUxxSD5WG BUxxSA5WGWZ BD37201NUX ▶P.38, 39, 42			BDxxIC0*1/2/4 ▶P.37, 38					
Ultra Low Voltage (Dual Supply)					BD3550HFN BD3507HFV BD3540NUV ▶P.42		BD3551HFN BD3541NUV ▶P.42		BD3506F BD3552HFN ▶P.42	BD3508MUV BD3512MUV ▶P.42	BD3509MUV ▶P.42	BD3504FVM BD3521FVM ▶P.42

\*1 Package Lineup \*2 Automotive Grade \*3 Multi Function Regulator (Ex. Voltage Detection) \*4 Industrial Grade \*5 Negative Voltage type

# Linear Regulators

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

## 78 series Regulators/Standard Regulator

### 35V Resistance 1A Output 78 series Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Circuit Current (mA)	Thermal Shutdown Circuit	Area of Safety Operation Circuit	Over Current Protection Circuit	Package/Part No.	
									TO220CP-3	TO252-3
BA17805 (BA7805)	7.5 to 25.0	5	±4	1.0	4.5	✓	✓	✓	BA17805CP	BA17805FP
BA17806 (BA7806)	8.5 to 21.0	6							BA17806CP	BA17806FP
BA17807 (BA7807)	9.5 to 22.0	7							BA17807CP	BA17807FP
BA17808 (BA7808)	10.5 to 23.0	8							BA17808CP	BA17808FP
BA17809 (BA7809)	11.5 to 26.0	9							BA17809CP	BA17809FP
BA17810 (BA7810)	12.5 to 25.0	10							BA17810CP	BA17810FP
BA17812 (BA7812)	15.0 to 27.0	12							BA17812CP	BA17812FP
BA17815 (BA7815)	17.5 to 30.0	15							BA17815CP	BA17815FP
BA17818 (BA7818)	21.0 to 33.0	18							BA17818CP	BA17818FP
BA17820 (BA7820)	23.0 to 33.0	20							BA17820CP	BA17820FP
BA17824 (BA7824)	27.0 to 33.0	24	BA17824CP	BA17824FP						

### 35V Resistance 500mA Output 78 series Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Circuit Current (mA)	Thermal Shutdown Circuit	Area of Safety Operation Circuit	Over Current Protection Circuit	Package/Part No.	
BA178M05 (BA78M05)	7.5 to 25.0	5	±4	0.5	4.5	✓	✓	✓	BA178M05CP	BA178M05FP
BA178M06 (BA78M06)	8.5 to 21.0	6							BA178M06CP	BA178M06FP
BA178M07 (BA78M07)	9.5 to 22.0	7							BA178M07CP	BA178M07FP
BA178M08 (BA78M08)	10.5 to 23.0	8							BA178M08CP	BA178M08FP
BA178M09 (BA78M09)	11.5 to 26.0	9							BA178M09CP	BA178M09FP
BA178M10 (BA78M10)	12.5 to 25.0	10							BA178M10CP	BA178M10FP
BA178M12 (BA78M12)	15.0 to 27.0	12							BA178M12CP	BA178M12FP
BA178M15 (BA78M15)	17.5 to 30.0	15							BA178M15CP	BA178M15FP
BA178M18 (BA78M18)	21.0 to 33.0	18							BA178M18CP	BA178M18FP
BA178M20 (BA78M20)	23.0 to 33.0	20							BA178M20CP	BA178M20FP
BA178M24 (BA78M24)	27.0 to 33.0	24							BA178M24CP	BA178M24FP

### 15V Resistance 1A Output Standard LDO Regulator

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Adjustment Pin Current (μA)	Reference Voltage (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package
BA1117FP	10	Variable	±1	1.0	60	1.2 (I <sub>o</sub> =1A)	75 (f=120Hz, V <sub>i</sub> -V <sub>o</sub> =3V, V <sub>ripple</sub> =1V <sub>pp</sub> )	10	Over-Current/ Temperature	TO252-3

## Single-Output LDO Regulators

### 50V Resistance 500mA Output LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Saturation Voltage: I <sub>o</sub> =200mA (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD3570YFP-M	4.5 to 36.0	3.3	±2 (T <sub>a</sub> =-40 to +125°C)	0.5	-	30	-40 to +125	-	Over-Current/ Temperature	TO252-3	FSs	YES
BD3570YHFP-M										HRP5	FSs	YES
BD3571YFP-M	5.5 to 36.0	5.0								TO252-3	FSs	YES
BD3571YHFP-M										HRP5	FSs	YES
BD3572YFP-M	4.5 to 36.0	Variable 2.8 to 12.0								TO252-5	FSs	YES
BD3572YHFP-M										HRP5	FSs	YES
BD3573YFP-M	5.5 to 36.0	3.3								TO252-5	FSs	YES
BD3573YHFP-M										HRP5	FSs	YES
BD3574YFP-M	5.5 to 36.0	5.0								TO252-5	FSs	YES
BD3574YHFP-M										HRP5	FSs	YES
BD3575YFP-M	4.5 to 36.0	Variable 2.8 to 12.0	TO252-5	FSs	YES							
BD3575YHFP-M			HRP5	FSs	YES							

### 50V Resistance 200mA Output Low Quiescent Current LDO Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Saturation Voltage: I <sub>o</sub> =200mA (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.			ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD733L2	4.37 to 45.0	3.3	±2 (T <sub>a</sub> =-40 to +125°C)	0.2	0.6	6	-40 to +125	-	Over-Current/ Temperature	HTSOP-J8	TO252-3	SOT223-4	FSs	YES
BD750L2	5.8 to 45.0	5.0			0.4					BD733L2EFP-C	BD733L2FP-C	BD733L2FP3-C	FSs	YES
										BD750L2EFP-C	BD750L2FP-C	BD750L2FP3-C	FSs	YES

### 50V Resistance 500mA Output Low Quiescent Current LDO Regulators

BD733L5	4.17 to 45.00	3.3	±2 (T <sub>a</sub> =-40 to +125°C)	0.5	0.4	6	-40 to +125	-	Over-Current/ Temperature	-	BD733L5FP-C	-	FSs	YES
BD750L5	5.6 to 45.0	5.0			0.25					-	BD750L5FP-C	-	FSs	YES

### 45V Resistance 500mA Output Low Quiescent Current LDO Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.				ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD433M5	4.0 to 42.0	3.3	±2 (T <sub>a</sub> =-40 to +150°C)	0.5	0.25 (I <sub>o</sub> =300mA)	38	T <sub>a</sub> =-40 to +150	-	Over-Current/ Temperature	TO252-3	TO263-3	TO263-5	TO252-J5	FSs	YES
BD450M5	5.5 to 42.0	5.0			0.2 (I <sub>o</sub> =300mA)					BD433M5FP-C	BD433M5FP2-C	-	-	FSs	YES
BD433M5W	4.0 to 42.0	3.3			0.25 (I <sub>o</sub> =300mA)					-	-	BD433M5WFP2-C	BD433M5WFPJ-C	FSs	YES
BD450M5W	5.5 to 42.0	5.0			0.2 (I <sub>o</sub> =300mA)					-	-	BD450M5WFP2-C	BD450M5WFPJ-C	FSs	YES

### 45V Resistance 500mA Output Low Quiescent Current LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.				ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD800M5	3.0 to 42.0	Variable 1.2 to 16.0	±2.0	0.5	0.45 (I <sub>o</sub> =500mA)	17	-40 to +150	✓	Over-Current/ Temperature	TO252-5	TO252-J5	TO263-5	HRP5	FSs	YES
BD00EA5W			±2.5							-	BD800M5WFPJ-C	-	BD800M5WFP2-C	BD800M5WFP-C	FSs
	±1 (T <sub>a</sub> =25°C)	-	-							-	BD00EA5WFP	-	BD00EA5WFP	-	-
	±1.5 (T <sub>a</sub> =25°C)	-	-							-	-	-	-	-	-

### 45V Resistance 700mA Output Low Quiescent Current LDO Regulators with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD800M7WFP2-C	3.0 to 42.0	Variable 1.2 to 16.0	±2.5	0.7	0.6 (I <sub>o</sub> =700mA)	17	-40 to +150	✓	Over-Current/ Temperature	TO263-5	FSs	YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

45V Resistance 200mA Output Low Quiescent Current LDO Regulators														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.				Automotive Grade AEC-Q100
										HTSOP-J8		SOT223-4		
BD433M2	3.9 to 42.0	3.3	±2 (T <sub>J</sub> =-40 to +150°C)	0.2	0.2 (I <sub>O</sub> =100mA)	40	T <sub>J</sub> =-40 to +150	-	Over-Current/ Temperature	BD433M2EFJ-C	FSS	BD433M2FP3-C	FSS	YES
BD450M2	5.5 to 42.0	5.0								BD450M2EFJ-C	FSS	BD450M2FP3-C	FSS	YES
BD433M2W	3.9 to 42.0	3.3								BD433M2WEFJ-C	FSS	BD433M2WFP3-C	FSS	YES
BD450M2W	5.5 to 42.0	5.0								BD450M2WEFJ-C	FSS	BD450M2WFP3-C	FSS	YES

36V Resistance 300mA Output LDO Regulator												
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (mA)	Operating Temperature (°C)	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
BD3650FP-M	5.6 to 30.0	5.0	±2 (T <sub>J</sub> =-40 to +125°C)	0.3	0.2 (I <sub>O</sub> =200mA)	0.5	-40 to +125	Over-Current/ Temperature	TO252-3	FSS	YES	

35V Resistance 2A LDO Regulators												
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package		
BA15DD0T	3 to 25	1.5	±1	2.0	0.9	0.45 (I <sub>O</sub> =2A)	55	50 (I <sub>O</sub> =0 to 2A)	Over-Voltage/ OverCurrent/ Temperature	TO220FP-3		
BA18DD0T		1.8								TO220FP-3		
BA25DD0T		2.5								TO220FP-3		
BA30DD0T		3.0								TO220FP-3		
BA33DD0T		3.3								TO220FP-3		
BA50DD0T		5.0								TO220FP-3		
BA90DD0T		9.0								TO220FP-3		
BAJ2DD0T		12.0								TO220FP-3		
BAJ6DD0T		16.0								TO220FP-3		

35V Resistance 2A LDO Regulators with Shutdown Switch												
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.		
BA00DD0W	3 to 25	Variable 1.5 to 16.0	±1	2.0	0.9	0.45 (I <sub>O</sub> =2A)	55	50 (I <sub>O</sub> =0 to 2A)	Over-Voltage/ Over-Current/ Temperature	BA00DD0WCP-V5 (TO220CP-V5)	BA00DD0WHFHP	
BA15DD0W		1.5								BA15DD0WHFHP		
BA18DD0W		1.8								BA18DD0WHFHP		
BA25DD0W		2.5								BA25DD0WHFHP		
BA30DD0W		3.0								BA30DD0WHFHP		
BA33DD0W		3.3								BA33DD0WHFHP		
BA50DD0W		5.0								BA50DD0WHFHP		
BA90DD0W		9.0								BA90DD0WHFHP		
BAJ2DD0W		12.0								BAJ2DD0WHFHP		
BAJ6DD0W		16.0								BAJ6DD0WHFHP		

35V Resistance 2A LDO Regulators supporting low output capacitance with Shutdown Switch												
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.		
BD00FD0W	4 to 32	Variable 1.5 to 16.0	±1.5	2.0	0.5	0.4 (I <sub>O</sub> =1A)	55	V <sub>O</sub> *x0.7% (I <sub>O</sub> =5mA to 1A)	Over-Current/ Temperature	BD00FD0WHFHP	BD00FD0WFHP2	
BD15FD0W		1.5								BD15FD0WHFHP	BD15FD0WFHP2	
BD18FD0W		1.8								BD18FD0WHFHP	BD18FD0WFHP2	
BD25FD0W		2.5								BD25FD0WHFHP	BD25FD0WFHP2	
BD30FD0W		3.0								BD30FD0WHFHP	BD30FD0WFHP2	
BD33FD0W		3.3								BD33FD0WHFHP	BD33FD0WFHP2	
BD50FD0W		5.0								BD50FD0WHFHP	BD50FD0WFHP2	
BD80FD0W		8.0								BD80FD0WHFHP	BD80FD0WFHP2	
BD90FD0W		9.0								BD90FD0WHFHP	BD90FD0WFHP2	
BDJ2FD0W		12.0								BDJ2FD0WHFHP	BDJ2FD0WFHP2	
BDJ5FD0W	15.0	BDJ5FD0WHFHP	BDJ5FD0WFHP2									
BDJ6FD0W	16.0	BDJ6FD0WHFHP	BDJ6FD0WFHP2									

35V Resistance 1A LDO Regulators												
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.		
BA03CC0	4 to 25	3.0	±2	1.0	2.5	0.30 (I <sub>O</sub> =0.5A)	55	50 (I <sub>O</sub> =5mA to 1A)	Over-Voltage/ Over-Current/ Temperature	BA03CC0T	BA03CC0FP	
BA033CC0		3.3								BA033CC0T	BA033CC0FP	
BA05CC0		5.0								BA05CC0T	BA05CC0FP	
BA06CC0		6.0								BA06CC0T	BA06CC0FP	
BA07CC0		7.0								BA07CC0T	BA07CC0FP	
BA08CC0		8.0								BA08CC0T	BA08CC0FP	
BA09CC0		9.0								BA09CC0T	BA09CC0FP	
BAJ0CC0		10.0								BAJ0CC0T	BAJ0CC0FP	
BAJ2CC0		12.0								BAJ2CC0T	BAJ2CC0FP	
BAJ5CC0		15.0								BAJ5CC0T	BAJ5CC0FP	

35V Resistance 1A LDO Regulators supporting low output capacitance												
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package		
BD80C0AFPS	9.0 to 26.5	8.0	±1	1.0	0.6	0.30 (I <sub>O</sub> =0.5A)	50	V <sub>O</sub> *x0.01 (I <sub>O</sub> =5mA to 1A)	Over-Current/ Temperature	TO252S-3		
BD90C0AFPS	10.0 to 26.5	9.0								TO252S-3		
BD33FC0FP	4.3 to 26.5	3.3	±1	1.0	0.6	0.30 (I <sub>O</sub> =0.5A)	55	V <sub>O</sub> *x0.01 (I <sub>O</sub> =5mA to 1A)	Over-Current/ Temperature	TO252-3		
BD50FC0FP	6.0 to 26.5	5.0								TO252-3		

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
 \*2 V<sub>O</sub> is Output voltage/Unit: V

**Single-Output LDO Regulators** Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

**Automotive 35V Resistance 1A LDO Regulators supporting low output capacitance**

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package/Part No.				ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
										TO252-3	HRP5	TO263-3	TO252S-3		
BD33C0A	4.3 to 26.5	3.3	±3 (T <sub>a</sub> =-40 to +125°C)	1.0	0.5	—	55	V <sub>o</sub> *2×0.01 (I <sub>o</sub> =5mA to 1A)	Over-Current/ Temperature	BD33C0AFP-C	BD33C0AHFP-C	BD33C0AFP2-C	—	FSs	YES
BD50C0A	6.0 to 26.5	5.0								BD50C0AFP-C	BD50C0AHFP-C	BD50C0AFP2-C	—	FSs	YES
BD80C0A	9.0 to 26.5	8.0								BD80C0AFP-C	BD80C0AHFP-C	BD80C0AFP2-C	BD80C0AFPS-C	FSs	YES
BD90C0A	10.0 to 26.5	9.0								BD90C0AFP-C	BD90C0AHFP-C	BD90C0AFP2-C	—	FSs	YES

**35V Resistance 1A LDO Regulators (Industrial Equipment)**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package
BD80C0AFPS-LB	9.0 to 26.5	8.0	±1	1.0	0.6	0.30 (I <sub>o</sub> =0.5A)	50	V <sub>o</sub> *2×0.01 (I <sub>o</sub> =5mA to 1A)	Over-Current/ Temperature	TO252S-3
BD90C0AFPS-LB	10.0 to 26.5	9.0								TO252S-3

**35V Resistance 1A LDO Rgulators supporting low output capacitance with Shutdown Switch**

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package/Part No.	
										TO252-5	HTSOP-J8
BD00FC0W	4.0 to 26.5	Variable 1.0 to 15.0	±1	1.0	0.5	0.3 (I <sub>o</sub> =500mA)	55	V <sub>o</sub> *2×0.01 (I <sub>o</sub> =5mA to 1A)	Over-Current/ Temperature	BD00FC0WFP	BD00FC0WEFJ
BD30FC0W		3.0								BD30FC0WFP	BD30FC0WEFJ
BD33FC0W	4.3 to 26.5	3.3								BD33FC0WFP	BD33FC0WEFJ
BD50FC0W	6.0 to 26.5	5.0								BD50FC0WFP	BD50FC0WEFJ
BD60FC0W	7.0 to 26.5	6.0								BD60FC0WFP	BD60FC0WEFJ
BD70FC0W	8.0 to 26.5	7.0								BD70FC0WFP	BD70FC0WEFJ
BD80FC0W	9.0 to 26.5	8.0								BD80FC0WFP	BD80FC0WEFJ
BD90FC0W	10.0 to 26.5	9.0								BD90FC0WFP	BD90FC0WEFJ
BDJ0FC0W	11.0 to 26.5	10.0								BDJ0FC0WFP	BDJ0FC0WEFJ
BDJ2FC0W	13.0 to 26.5	12.0								BDJ2FC0WFP	BDJ2FC0WEFJ
BDJ5FC0W	16.0 to 26.5	15.0								BDJ5FC0WFP	BDJ5FC0WEFJ

**35V Resistance 1A LDO Rgulators with Shutdown Switch**

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.	
										TO220FP-5	TO252-5
BA00CC0W	4 to 25	Variable 3.0 to 15.0	±2	1.0	2.5	0.3 (I <sub>o</sub> =0.5A)	55	50 (I <sub>o</sub> =5mA to 1A)	Over-Voltage/ Over-Current/ Temperature	BA00CC0WT/ BA00CC0WCP-V5 (TO220CP-V5)	BA00CC0WFP
BA03CC0W		3.0								BA03CC0WT	—
BA033CC0W		3.3								BA033CC0WT	BA033CC0WFP
BA05CC0W		5.0								BA05CC0WT	BA05CC0WFP
BA06CC0W		6.0								—	BA06CC0WFP
BA07CC0W		7.0								BA07CC0WT	BA07CC0WFP
BA08CC0W		8.0								BA08CC0WT	BA08CC0WFP
BA09CC0W		9.0								BA09CC0WT	BA09CC0WFP
BAJ0CC0W		10.0								BAJ0CC0WT	—
BAJ2CC0W		12.0								BAJ2CC0WT	BAJ2CC0WFP

**35V Resistance 1A LDO Rgulators supporting wide temperature range and low output capacitance with Shutdown Switch**

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package/Part No.	
										TO252-5	TO220CP-V5
BD00C0AW	4.0 to 26.5	Variable 3.0 to 15.0	±1	1.0	0.5	0.3 (I <sub>o</sub> =500mA)	55	V <sub>o</sub> *2×0.01 (I <sub>o</sub> =5mA to 1A)	Over-Current/ Temperature	BD00C0AWFP	BD00C0AWCP-V5
BD33C0AW	4.3 to 26.5	3.3								BD33C0AWFP	—
BD50C0AW	6.0 to 26.5	5.0								BD50C0AWFP	—

**Automotive 35V Resistance 1A LDO Rgulators supporting low height package with Shutdown Switch**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Saturation Voltage (V)	Circuit Current (mA)	Operating Temperature (°C)	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00C0AWFPS-M	4.0 to 26.5	Variable 3.0 to 15.0	±3 (T <sub>a</sub> =-40 to +105°C)	1.0	0.3 (I <sub>o</sub> =500mA)	0.5	-40 to +105	Over-Current/ Temperature	TO252S-5	FSs	YES

**Automotive 35V Resistance 1A LDO Rgulators supporting low output capacitance with Shutdown Switch**

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package/Part No.			ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
										TO252-5	HRP5	TO263-5		
BD00C0AW	4.0 to 26.5	Variable 1.0 to 15.0	±3 (T <sub>a</sub> =-40 to +125°C)	1.0	0.5	0.3 (I <sub>o</sub> =500mA)	55	V <sub>o</sub> *2×0.01 (I <sub>o</sub> =5mA to 1A)	Over-Current/ Temperature	BD00C0AWFP-C	BD00C0AWHFP-C	BD00C0AWFP2-C	FSs	YES
BD33C0AW	4.3 to 26.5	3.3								BD33C0AWFP-C	BD33C0AWHFP-C	BD33C0AWFP2-C	FSs	YES
BD50C0AW	6.0 to 26.5	5.0								BD50C0AWFP-C	BD50C0AWHFP-C	BD50C0AWFP2-C	FSs	YES
BD80C0AW	9.0 to 26.5	8.0								BD80C0AWFP-C	BD80C0AWHFP-C	BD80C0AWFP2-C	FSs	YES
BD90C0AW	10.0 to 26.5	9.0								BD90C0AWFP-C	BD90C0AWHFP-C	BD90C0AWFP2-C	FSs	YES

**35V Resistance 300mA LDO Regulator with Shutdown Switch**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation	Protection Circuit	Package
BA3662CP-V5	4 to 25	Variable 3.0 to 15.0	±2	0.3	2.5	0.3 (I <sub>o</sub> =0.2A)	55	40mV (I <sub>o</sub> =5to 200mA)	Over-Voltage/ Over-Current/ Temperature	TO220CP-V5

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

\*2 V<sub>o</sub> is Output voltage/Unit: V

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

30V Resistance 100mA small package LDO Rgulators															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Load Regulation (%)	Protection Circuit	Input Capacitor (μF)	Output Capacitor (μF)	Package				
BD33FA1FP3	Vo+3 to 25	3.3	±1	0.1	0.3	1 (Io=100mA)	±1.5	Over-Current/ Temperature	1.0	1.0	SOT89-3K				
BD50FA1FP3		5.0									SOT89-3K				
BD54FA1FP3		5.4									SOT89-3K				
BDJ2FA1FP3		12.0									SOT89-3K				
Automotive 30V Resistance 100mA LDO Rgulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Load Regulation (%)	Protection Circuit	Input Capacitor (μF)	Output Capacitor (μF)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100		
BD50FA1MG-M	Vo+3 to 25	5	±1	0.1	0.5	2 (Io=100mA)	±1.5	Over-Current/ Temperature	1.0	1.0	SSOP5	FSs	YES		
30V Resistance 100mA LDO Rgulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Load Regulation (%)	Protection Circuit	Input Capacitor (μF)	Output Capacitor (μF)	Package				
BD00FA1WEFJ	Vo+3 to 25	Variable 3.0 to 12.0	±1	0.1	0.3	2 (Io=100mA)	±1.5	Over-Current/ Temperature	2.2	2.2	HTSOP-J8				
18V Resistance 1.5A LDO Regulators															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package			
BA15JC5T	3 to 16	1.5	±1	1.5	0.5	0.3 (Io=500mA)	55	5 (Io=5mA to 1.5A)	0.33	22.0	Over-Current/ Temperature	TO220FP-3			
BA18JC5T		1.8										TO220FP-3			
BA25JC5T		2.5										TO220FP-3			
BA30JC5T		3.0										TO220FP-3			
BA33JC5T		3.3										TO220FP-3			
BA50JC5T		5.0										TO220FP-3			
BA60JC5T		6.0										TO220FP-3			
BA80JC5T		8.0										TO220FP-3			
BA90JC5T		9.0										TO220FP-3			
18V Resistance 1.5A LDO Regulator with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package		
BA00JC5WT	3 to 16	Variable 1.5 to 12.0	±1	1.5	0.5	0.3 (Io=500mA)	55	5 (Io=5mA to 1.5A)	0.33	22.0	✓	Over-Current/ Temperature	TO220FP-5		
18V Resistance 1A LDO Regulators															
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package/Part No.			
BA15BC0	3 to 16	1.5	±2	1.0	0.5	0.3 (Io=200mA)	55	35 (Io=0 to 1A)	0.33	22.0	Over-Current/ Temperature	BA15BC0FP	BA15BC0T		
BA18BC0		1.8										BA18BC0FP	BA18BC0T		
BA25BC0		2.5										BA25BC0FP	BA25BC0T		
BA30BC0		3.0										BA30BC0FP	BA30BC0T		
BA33BC0		3.3										BA33BC0FP	BA33BC0T		
BA50BC0		5.0			BA50BC0FP							BA50BC0T			
BA60BC0		6.0			BA60BC0FP							BA60BC0T			
BA70BC0		7.0			BA70BC0FP							BA70BC0T			
BA80BC0		8.0			BA80BC0FP							BA80BC0T			
BA90BC0		9.0			BA90BC0FP							BA90BC0T			
BAJ0BC0	10.0	BAJ0BC0FP	BAJ0BC0T												
18V Resistance 1A LDO Regulators with Shutdown Switch															
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.		
BA00BC0W	3 to 16	Variable 1.5 to 12.0	±2	1.0	0.5 (Vo≤6.0)	0.3 (Io=200mA)	55	35 (Io=0 to 1A)	0.33	22.0	✓	Over-Current/ Temperature	BA00BC0WFP/ BA00BC0WCP-V5 (TO220CP-V5)	BA00BC0WT	
BA15BC0W					0.5								1.5	BA15BC0WFP	BA15BC0WT
BA18BC0W													1.8	BA18BC0WFP	BA18BC0WT
BA25BC0W													2.5	BA25BC0WFP	BA25BC0WT
BA30BC0W													3.0	BA30BC0WFP	BA30BC0WT
BA33BC0W													3.3	BA33BC0WFP	BA33BC0WT
BA50BC0W					0.6								5.0	BA50BC0WFP	BA50BC0WT
BA60BC0W													6.0	BA60BC0WFP	BA60BC0WT
BA70BC0W													7.0	BA70BC0WFP	BA70BC0WT
BA80BC0W													8.0	BA80BC0WFP	BA80BC0WT
BA90BC0W	9.0	BA90BC0WFP	BA90BC0WT												
BAJ0BC0W	10.0	BAJ0BC0WFP	BAJ0BC0WT												

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

### Single-Output LDO Regulators

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

#### 15V Resistance 1A LDO Regulators with Shutdown Switch

Part No. Consumer/Automotive Grade	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00GC0WEFJ/BD00GC0MEFJ-M	4.5 to 14.0	Variable 1.5 to 13.0	±1 (T <sub>a</sub> =+25°C)/ ±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	1.0	0.6	0.6 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>PP</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-/FSs	-/YES
BD15GC0WEFJ/BD15GC0MEFJ-M		1.5											HTSOP-J8	-/FSs	-/YES
BD18GC0WEFJ/BD18GC0MEFJ-M		1.8											HTSOP-J8	-/FSs	-/YES
BD25GC0WEFJ/BD25GC0MEFJ-M		2.5											HTSOP-J8	-/FSs	-/YES
BD30GC0WEFJ/BD30GC0MEFJ-M		3.0											HTSOP-J8	-/FSs	-/YES
BD33GC0WEFJ/BD33GC0MEFJ-M		3.3											HTSOP-J8	-/FSs	-/YES
BD50GC0WEFJ/BD50GC0MEFJ-M		5.0											HTSOP-J8	-/FSs	-/YES
BD60GC0WEFJ/BD60GC0MEFJ-M		6.0											HTSOP-J8	-/FSs	-/YES
BD70GC0WEFJ/BD70GC0MEFJ-M		7.0											HTSOP-J8	-/FSs	-/YES
BD80GC0WEFJ/BD80GC0MEFJ-M		8.0											HTSOP-J8	-/FSs	-/YES
BD90GC0WEFJ/BD90GC0MEFJ-M		9.0											HTSOP-J8	-/FSs	-/YES
BDJ0GC0WEFJ/BDJ0GC0MEFJ-M		10.0											HTSOP-J8	-/FSs	-/YES
BDJ2GC0WEFJ/BDJ2GC0MEFJ-M		12.0											HTSOP-J8	-/FSs	-/YES

#### 15V Resistance 1A Variable/Fixed Output LDO Regulators (Industrial Equipment)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00GC0MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±1/±3 (T <sub>a</sub> =-40 to +105°C)	1.0	0.6	0.6 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>PP</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8
BD15GC0MEFJ-LB		1.5											HTSOP-J8
BD18GC0MEFJ-LB		1.8											HTSOP-J8
BD25GC0MEFJ-LB		2.5											HTSOP-J8
BD30GC0MEFJ-LB		3.0											HTSOP-J8
BD33GC0MEFJ-LB		3.3											HTSOP-J8
BD50GC0MEFJ-LB		5.0											HTSOP-J8
BD60GC0MEFJ-LB		6.0											HTSOP-J8
BD70GC0MEFJ-LB		7.0											HTSOP-J8
BD80GC0MEFJ-LB		8.0											HTSOP-J8
BD90GC0MEFJ-LB		9.0											HTSOP-J8
BDJ0GC0MEFJ-LB		10.0											HTSOP-J8
BDJ2GC0MEFJ-LB		12.0											HTSOP-J8

#### 15V Voltage Resistance 500mA LDO Regulators with Shutdown Switch

Part No. Consumer/Automotive Grade	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00GA5WEFJ/BD00GA5MEFJ-M	4.5 to 14.0	Variable 1.5 to 13.0	±1 (T <sub>a</sub> =25°C)/ ±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	0.5	0.6	0.6 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>PP</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-/FSs	-/YES
BD15GA5WEFJ/BD15GA5MEFJ-M		1.5											HTSOP-J8	-/FSs	-/YES
BD18GA5WEFJ/BD18GA5MEFJ-M		1.8											HTSOP-J8	-/FSs	-/YES
BD25GA5WEFJ/BD25GA5MEFJ-M		2.5											HTSOP-J8	-/FSs	-/YES
BD30GA5WEFJ/BD30GA5MEFJ-M		3.0											HTSOP-J8	-/FSs	-/YES
BD33GA5WEFJ/BD33GA5MEFJ-M		3.3											HTSOP-J8	-/FSs	-/YES
BD50GA5WEFJ/BD50GA5MEFJ-M		5.0											HTSOP-J8	-/FSs	-/YES
BD60GA5WEFJ/BD60GA5MEFJ-M		6.0											HTSOP-J8	-/FSs	-/YES
BD70GA5WEFJ/BD70GA5MEFJ-M		7.0											HTSOP-J8	-/FSs	-/YES
BD80GA5WEFJ/BD80GA5MEFJ-M		8.0											HTSOP-J8	-/FSs	-/YES
BD90GA5WEFJ/BD90GA5MEFJ-M		9.0											HTSOP-J8	-/FSs	-/YES
BDJ0GA5WEFJ/BDJ0GA5MEFJ-M		10.0											HTSOP-J8	-/FSs	-/YES
BDJ2GA5WEFJ/BDJ2GA5MEFJ-M		12.0											HTSOP-J8	-/FSs	-/YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

15V Resistance 500mA Variable/Fixed Output LDO Regulators (Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	
BD00GA5MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±1/±3 (T <sub>a</sub> =-40 to +105°C)	0.5	0.6	0.6 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15GA5MEFJ-LB		1.5											HTSOP-J8	
BD18GA5MEFJ-LB		1.8											HTSOP-J8	
BD25GA5MEFJ-LB		2.5											HTSOP-J8	
BD30GA5MEFJ-LB		3.0											HTSOP-J8	
BD33GA5MEFJ-LB		3.3											HTSOP-J8	
BD50GA5MEFJ-LB		5.0											HTSOP-J8	
BD60GA5MEFJ-LB		6.0											HTSOP-J8	
BD70GA5MEFJ-LB		7.0											HTSOP-J8	
BD80GA5MEFJ-LB		8.0											HTSOP-J8	
BD90GA5MEFJ-LB		9.0											HTSOP-J8	
BDJ0GA5MEFJ-LB		10.0											HTSOP-J8	
BDJ2GA5MEFJ-LB		12.0											HTSOP-J8	

15V Resistance 300mA LDO Regulators with Shutdown Switch														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													HTSOP-J8	VSON008X2030
BD00GA3W	4.5 to 14.0	Variable 1.5 to 13.0	±1	0.3	0.6	0.6 (I <sub>o</sub> =300mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	BD00GA3WEFJ	BD00GA3WNUX
BD15GA3W		1.5											BD15GA3WEFJ	☆BD15GA3WNUX
BD18GA3W		1.8											BD18GA3WEFJ	☆BD18GA3WNUX
BD25GA3W		2.5											BD25GA3WEFJ	☆BD25GA3WNUX
BD30GA3W		3.0											BD30GA3WEFJ	BD30GA3WNUX
BD33GA3W		3.3											BD33GA3WEFJ	☆BD33GA3WNUX
BD50GA3W		5.0											BD50GA3WEFJ	BD50GA3WNUX
BD60GA3W		6.0											BD60GA3WEFJ	BD60GA3WNUX
BD70GA3W		7.0											BD70GA3WEFJ	☆BD70GA3WNUX
BD80GA3W		8.0											BD80GA3WEFJ	☆BD80GA3WNUX
BD90GA3W		9.0											BD90GA3WEFJ	☆BD90GA3WNUX
BDJ0GA3W		10.0											BDJ0GA3WEFJ	☆BDJ0GA3WNUX
BDJ2GA3W		12.0											BDJ2GA3WEFJ	☆BDJ2GA3WNUX

15V Resistance 300mA LDO Regulators with Shutdown Switch																
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™	Automotive	
														Functional Safety*1	Grade AEC-Q100	
BD00GA3MEFJ-M	4.5 to 14.0	Variable 1.5 to 13.0	±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	0.3	0.6	0.6 (I <sub>o</sub> =300mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	FSs	YES	
BD15GA3MEFJ-M		1.5											HTSOP-J8	FSs	YES	
BD18GA3MEFJ-M		1.8											HTSOP-J8	FSs	YES	
BD25GA3MEFJ-M		2.5											HTSOP-J8	FSs	YES	
BD30GA3MEFJ-M		3.0											HTSOP-J8	FSs	YES	
BD33GA3MEFJ-M		3.3											HTSOP-J8	FSs	YES	
BD50GA3MEFJ-M		5.0											HTSOP-J8	FSs	YES	
BD60GA3MEFJ-M		6.0											HTSOP-J8	FSs	YES	
BD70GA3MEFJ-M		7.0											HTSOP-J8	FSs	YES	
BD80GA3MEFJ-M		8.0											HTSOP-J8	FSs	YES	
BD90GA3MEFJ-M		9.0											HTSOP-J8	FSs	YES	
BDJ0GA3MEFJ-M		10.0											HTSOP-J8	FSs	YES	
BDJ2GA3MEFJ-M		12.0											HTSOP-J8	FSs	YES	

15V Resistance 300mA Variable/Fixed Output LDO Regulators (Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	
BD00GA3MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±3 (T <sub>a</sub> =-40 to +105°C)	0.3	0.6	0.6 (I <sub>o</sub> =300mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15GA3MEFJ-LB		1.5											HTSOP-J8	
BD18GA3MEFJ-LB		1.8											HTSOP-J8	
BD25GA3MEFJ-LB		2.5											HTSOP-J8	
BD30GA3MEFJ-LB		3.0											HTSOP-J8	
BD33GA3MEFJ-LB		3.3											HTSOP-J8	
BD50GA3MEFJ-LB		5.0											HTSOP-J8	
BD60GA3MEFJ-LB		6.0											HTSOP-J8	
BD70GA3MEFJ-LB		7.0											HTSOP-J8	
BD80GA3MEFJ-LB		8.0											HTSOP-J8	
BD90GA3MEFJ-LB		9.0											HTSOP-J8	
BDJ0GA3MEFJ-LB		10.0											HTSOP-J8	
BDJ2GA3MEFJ-LB		12.0											HTSOP-J8	

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

☆: Under Development



### Single-Output LDO Regulators Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

10V Resistance 1.5A LDO Regulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00HC5WEFJ/BD00HC5MEFJ-M	4.5 to 8.0	Variable 1.5 to 7.0	±1 (T <sub>s</sub> =25°C)/ ±3 (T <sub>s</sub> =-40 to +105°C) <Automotive Grade>	1.5	0.6	0.6 (I <sub>o</sub> =1.5A)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1.5A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-/FSs	-/YES
BD15HC5WEFJ/BD15HC5MEFJ-M		1.5											HTSOP-J8	-/FSs	-/YES
BD18HC5WEFJ/BD18HC5MEFJ-M		1.8											HTSOP-J8	-/FSs	-/YES
BD25HC5WEFJ/BD25HC5MEFJ-M		2.5											HTSOP-J8	-/FSs	-/YES
BD30HC5WEFJ/BD30HC5MEFJ-M		3.0											HTSOP-J8	-/FSs	-/YES
BD33HC5WEFJ/BD33HC5MEFJ-M		3.3											HTSOP-J8	-/FSs	-/YES
BD50HC5WEFJ/BD50HC5MEFJ-M		5.0											HTSOP-J8	-/FSs	-/YES
BD60HC5WEFJ/BD60HC5MEFJ-M		6.0											HTSOP-J8	-/FSs	-/YES
BD70HC5WEFJ/BD70HC5MEFJ-M		7.0											HTSOP-J8	-/FSs	-/YES
10V Resistance 1.5A Variable/Fixed Output LDO Regulators															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100	
BD00HC5MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1/±3 (T <sub>s</sub> =-40 to +105°C)	1.5	0.6	0.6 (I <sub>o</sub> =1.5A)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1.5A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-	-
BD15HC5MEFJ-LB		1.5											HTSOP-J8	-	-
BD18HC5MEFJ-LB		1.8											HTSOP-J8	-	-
BD25HC5MEFJ-LB		2.5											HTSOP-J8	-	-
BD30HC5MEFJ-LB		3.0											HTSOP-J8	-	-
BD33HC5MEFJ-LB		3.3											HTSOP-J8	-	-
BD50HC5MEFJ-LB/BD50HC5MEFJ-C		5.0											HTSOP-J8	-/YES	-
BD60HC5MEFJ-LB		6.0											HTSOP-J8	-	-
BD70HC5MEFJ-LB		7.0											HTSOP-J8	-	-
10V Resistance 1A LDO Regulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00HC0WEFJ/BD00HC0MEFJ-M	4.5 to 8.0	Variable 0.8 to 7.0 (Automotive Grade Variable 1.5 to 7.0)	±1 (T <sub>s</sub> =+25°C)/ ±3 (T <sub>s</sub> =-40 to +105°C) <Automotive Grade>	1.0	0.6	0.6 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-/FSs	-/YES
BD15HC0WEFJ/BD15HC0MEFJ-M		1.5											HTSOP-J8	-/FSs	-/YES
BD18HC0WEFJ/BD18HC0MEFJ-M		1.8											HTSOP-J8	-/FSs	-/YES
BD25HC0WEFJ/BD25HC0MEFJ-M		2.5											HTSOP-J8	-/FSs	-/YES
BD30HC0WEFJ/BD30HC0MEFJ-M		3.0											HTSOP-J8	-/FSs	-/YES
BD33HC0WEFJ/BD33HC0MEFJ-M		3.3											HTSOP-J8	-/FSs	-/YES
BD50HC0WEFJ/BD50HC0MEFJ-M		5.0											HTSOP-J8	-/FSs	-/YES
BD60HC0WEFJ/BD60HC0MEFJ-M		6.0											HTSOP-J8	-/FSs	-/YES
BD70HC0WEFJ/BD70HC0MEFJ-M		7.0											HTSOP-J8	-/FSs	-/YES
10V Resistance 1A Variable/Fixed Output LDO Regulators(Industrial Equipment)															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package		
BD00HC0MEFJ-LB	4.5 to 8.0	Variable 0.8 to 7.0 (Variable 1.5 to 7.0)	±1/±3 (T <sub>s</sub> =-40 to +105°C)	1.0	0.6	0.6 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8		
BD15HC0MEFJ-LB		1.5											HTSOP-J8		
BD18HC0MEFJ-LB		1.8											HTSOP-J8		
BD25HC0MEFJ-LB		2.5											HTSOP-J8		
BD30HC0MEFJ-LB		3.0											HTSOP-J8		
BD33HC0MEFJ-LB		3.3											HTSOP-J8		
BD50HC0MEFJ-LB		5.0											HTSOP-J8		
BD60HC0MEFJ-LB		6.0											HTSOP-J8		
BD70HC0MEFJ-LB		7.0											HTSOP-J8		
10V Resistance 500mA LDO Regulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00HA5WEFJ/BD00HA5MEFJ-M	4.5 to 8.0	Variable 1.5 to 7.0	±1 (T <sub>s</sub> =+25°C)/ ±3 (T <sub>s</sub> =-40 to +105°C) <Automotive Grade>	0.5	0.6	0.6 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	-/FSs	-/YES
BD15HA5WEFJ/BD15HA5MEFJ-M		1.5											HTSOP-J8	-/FSs	-/YES
BD18HA5WEFJ/BD18HA5MEFJ-M		1.8											HTSOP-J8	-/FSs	-/YES
BD25HA5WEFJ/BD25HA5MEFJ-M		2.5											HTSOP-J8	-/FSs	-/YES
BD30HA5WEFJ/BD30HA5MEFJ-M		3.0											HTSOP-J8	-/FSs	-/YES
BD33HA5WEFJ/BD33HA5MEFJ-M		3.3											HTSOP-J8	-/FSs	-/YES
BD50HA5WEFJ/BD50HA5MEFJ-M		5.0											HTSOP-J8	-/FSs	-/YES
BD60HA5WEFJ/BD60HA5MEFJ-M		6.0											HTSOP-J8	-/FSs	-/YES
BD70HA5WEFJ/BD70HA5MEFJ-M		7.0											HTSOP-J8	-/FSs	-/YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

10V Resistance 500mA Variable/Fixed Output LDO Regulators (Industrial Equipment)													
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00HA5MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1/±3 (T <sub>a</sub> =-40 to +105°C)	0.5	0.6	0.6 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>rps</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/Temperature	HTSOP-J8
BD15HA5MEFJ-LB		1.5											HTSOP-J8
BD18HA5MEFJ-LB		1.8											HTSOP-J8
BD25HA5MEFJ-LB		2.5											HTSOP-J8
BD30HA5MEFJ-LB		3.0											HTSOP-J8
BD33HA5MEFJ-LB		3.3											HTSOP-J8
BD50HA5MEFJ-LB		5.0											HTSOP-J8
BD60HA5MEFJ-LB		6.0											HTSOP-J8
BD70HA5MEFJ-LB		7.0											HTSOP-J8

10V Resistance 300mA LDO Regulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
Consumer/Automotive Grade		Variable 1.5 to 7.0	±1 (T <sub>a</sub> =+25°C) ±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	0.3	0.6	0.6 (I <sub>o</sub> =300mA)	60 (f=100Hz, 50mV <sub>rps</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 300mA)	1.0	1.0	✓	Over-Current/Temperature	HTSOP-J8	-/FSs	-/YES
BD00HA3WEFJ/BD00HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD15HA3WEFJ/BD15HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD18HA3WEFJ/BD18HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD25HA3WEFJ/BD25HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD30HA3WEFJ/BD30HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD33HA3WEFJ/BD33HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD50HA3WEFJ/BD50HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD60HA3WEFJ/BD60HA3MEFJ-M	HTSOP-J8												-/FSs	-/YES	
BD70HA3WEFJ/BD70HA3MEFJ-M	HTSOP-J8	-/FSs	-/YES												

10V Resistance 300mA Variable/Fixed Output Industrial LDO Regulators													
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package
BD00HA3MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1/±3 (T <sub>a</sub> =-40 to +105°C)	0.3	0.6	0.6 (I <sub>o</sub> =300mA)	60 (f=100Hz, 50mV <sub>rps</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 300mA)	1.0	1.0	✓	Over-Current/Temperature	HTSOP-J8
BD15HA3MEFJ-LB		1.5											HTSOP-J8
BD18HA3MEFJ-LB		1.8											HTSOP-J8
BD25HA3MEFJ-LB		2.5											HTSOP-J8
BD30HA3MEFJ-LB		3.0											HTSOP-J8
BD33HA3MEFJ-LB		3.3											HTSOP-J8
BD50HA3MEFJ-LB		5.0											HTSOP-J8
BD60HA3MEFJ-LB		6.0											HTSOP-J8
BD70HA3MEFJ-LB		7.0											HTSOP-J8

7V Resistance 1A LDO Regulators with Shutdown Switch														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													HTSOP-J8	HVSOF6
BD00IC0W	2.4 to 5.5	Variable 0.8 to 4.5	±1	1.0	0.3	0.4 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>rps</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/Temperature	BD00IC0WEFJ	BD00IC0WHFV
BD10IC0W		1.0											BD10IC0WEFJ	BD10IC0WHFV
BD12IC0W		1.2											BD12IC0WEFJ	BD12IC0WHFV
BD1CIC0W		1.25											—	BD1CIC0WHFV
BD15IC0W		1.5											BD15IC0WEFJ	BD15IC0WHFV
BD18IC0W		1.8											BD18IC0WEFJ	BD18IC0WHFV
BD25IC0W		2.5											BD25IC0WEFJ	BD25IC0WHFV
BD26IC0W		2.6											—	BD26IC0WHFV
BD30IC0W		3.0											BD30IC0WEFJ	BD30IC0WHFV
BD33IC0W		3.3											BD33IC0WEFJ	BD33IC0WHFV

Automotive 7V Resistance 1A LDO Regulators with Shutdown Switch															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00IC0MEFJ-M	2.4 to 5.5	Variable 0.8 to 4.5	±3 (T <sub>a</sub> =-40 to +105°C)	1.0	0.3	0.4 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>rps</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/Temperature	HTSOP-J8	FSs	YES
BD10IC0MEFJ-M		1.0											HTSOP-J8	FSs	YES
BD12IC0MEFJ-M		1.2											HTSOP-J8	FSs	YES
BD15IC0MEFJ-M		1.5											HTSOP-J8	FSs	YES
BD18IC0MEFJ-M		1.8											HTSOP-J8	FSs	YES
BD25IC0MEFJ-M		2.5											HTSOP-J8	FSs	YES
BD30IC0MEFJ-M		3.0											HTSOP-J8	FSs	YES
BD33IC0MEFJ-M		3.3											HTSOP-J8	FSs	YES

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

**Single-Output LDO Regulators** Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

7V Resistance 1A Variable/Fixed Output LDO Regulators															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00IC0MEFJ-LB	2.3 to 5.5	Variable 0.8 to 4.5	±3 (T <sub>a</sub> =-40 to +105°C)	1.0	0.3	0.4 (I <sub>o</sub> =1A)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	—	—
BD10IC0MEFJ-LB	2.4 to 5.5	1.0											HTSOP-J8	—	—
BD12IC0MEFJ-LB		1.2											HTSOP-J8	—	—
BD15IC0MEFJ-LB		1.5											HTSOP-J8	—	—
BD18IC0MEFJ-LB		1.8											HTSOP-J8	—	—
BD25IC0MEFJ-LB		2.5											HTSOP-J8	—	—
BD30IC0MEFJ-LB		3.0											HTSOP-J8	—	—
BD33IC0MEFJ-LB/BD33IC0MEFJ-C		3.3											HTSOP-J8	—/FSs	—/YES

7V Resistance 500mA LDO Regulators													
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package	
BD10KA5FP	2.3 to 5.5	1.0	±1	0.5	0.35	0.12 (I <sub>o</sub> =200mA)	50	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	Over-Current/ Temperature	TO252-3	
BD12KA5FP		1.2										TO252-3	
BD15KA5FP		1.5										TO252-3	
BD18KA5FP		1.8										TO252-3	
BD25KA5FP		2.5										TO252-3	
BD30KA5FP		3.0										TO252-3	
BD33KA5FP		3.3										TO252-3	

7V Resistance 500mA LDO Regulators with Shutdown Switch														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													TO252-5	SOP8
BD00KA5W	2.3 to 5.5	Variable 1.0 to 4.0	±1	0.5	0.35	0.12 (I <sub>o</sub> =200mA)	50	25 (0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	BD00KA5WFP	BD00KA5WF
BD10KA5W		1.0											BD10KA5WFP	BD10KA5WF
BD12KA5W		1.2											BD12KA5WFP	BD12KA5WF
BD15KA5W		1.5											BD15KA5WFP	BD15KA5WF
BD18KA5W		1.8											BD18KA5WFP	BD18KA5WF
BD25KA5W		2.5											BD25KA5WFP	BD25KA5WF
BD30KA5W		3.0											BD30KA5WFP	BD30KA5WF
BD33KA5W		3.3											BD33KA5WFP	BD33KA5WF

7V Resistance 500mA LDO Regulators with Shutdown Switch (BDxxIA series)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	
BD00IA5WEFJ	2.4 to 5.5	Variable 0.8 to 4.5	±1 (T <sub>a</sub> =+25°C)/ ±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	0.5	0.25	0.4 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD10IA5WEFJ		1.0											HTSOP-J8	
BD12IA5WEFJ		1.2											HTSOP-J8	
BD15IA5WEFJ		1.5											HTSOP-J8	
BD18IA5WEFJ		1.8											HTSOP-J8	
BD25IA5WEFJ		2.5											HTSOP-J8	
BD30IA5WEFJ		3.0											HTSOP-J8	
BD33IA5WEFJ		3.3											HTSOP-J8	

Automotive 7V Resistance 500mA LDO Regulators with Shutdown Switch (BDxxIA series)															
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD00IA5MEFJ-M/BD00IA5MHFV-M	2.4 to 5.5	Variable 0.8 to 4.5	±1 (T <sub>a</sub> =+25°C)/ ±3 (T <sub>a</sub> =-40 to +105°C) <Automotive Grade>	0.5	0.25	0.4 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>pp</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8/HVSOF6	FSs	YES
BD10IA5MEFJ-M		1.0											HTSOP-J8	FSs	YES
BD12IA5MEFJ-M		1.2											HTSOP-J8	FSs	YES
BD15IA5MEFJ-M		1.5											HTSOP-J8	FSs	YES
BD18IA5MEFJ-M		1.8											HTSOP-J8	FSs	YES
BD25IA5MEFJ-M		2.5											HTSOP-J8	FSs	YES
BD30IA5MEFJ-M		3.0											HTSOP-J8	FSs	YES
BD33IA5MEFJ-M		3.3											HTSOP-J8	FSs	YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

7V Resistance 500mA Variable/Fixed Output LDO Regulators(Industrial Equipment)													
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00IA5MEFJ-LB	2.4 to 5.5	Variable 0.8 to 4.5	±1/±3 (T <sub>s</sub> =-40 to +105°C)	0.5	0.25	0.4 (I <sub>o</sub> =500mA)	60 (f=100Hz, 50mV <sub>PP</sub> , I <sub>o</sub> =0A)	25 (I <sub>o</sub> =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8
BD10IA5MEFJ-LB		1.0											HTSOP-J8
BD12IA5MEFJ-LB		1.2											HTSOP-J8
BD15IA5MEFJ-LB		1.5											HTSOP-J8
BD18IA5MEFJ-LB		1.8											HTSOP-J8
BD25IA5MEFJ-LB		2.5											HTSOP-J8
BD30IA5MEFJ-LB		3.0											HTSOP-J8
BD33IA5MEFJ-LB		3.3											HTSOP-J8

6.5V Resistance 500mA Full CMOS LDO Regulators											
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (μA)	I/O Voltage Difference (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package	
BU18SD5WG	1.7 to 6.0	1.8	±1	0.5	33.0	150 (I <sub>o</sub> =100mA)	68	0.5	Over Current/ Temperature	SSOP5	
BU33SD5WG		3.3				85 (I <sub>o</sub> =100mA)				SSOP5	

6.5V Resistance 500mA Full CMOS LDO Regulators with Shutdown Switch WL-CSP type											
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package	
BU30SA5GWZ	1.8 to 5.0	3	±1	0.5	0.033	0.08 (I <sub>o</sub> =100mA)	70dB (f=1kHz)	6 (I <sub>OUT</sub> =0.01mA to 300mA)	Over Current/ Temperature	UCSP30L1	
BU33SA5GWZ		3.3								UCSP30L1	

6.5V Resistance 300mA CMOS LDO Regulators with Shutdown Switch																		
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	V <sub>sat</sub> (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Soft Start Function	Package	
BH15M0AWHFV	2.5 to 5.5	1.5	±25mV	0.3	-	60	6 (I <sub>o</sub> =1 to 100mA)	65	100	1.0	1.0	✓	✓	✓	-	-	HVSOF6	
BH18M0AWHFV		1.8															HVSOF6	
BH20M0AWHFV		2.0															HVSOF6	
BH21M0AWHFV		2.1															HVSOF6	
BH25M0AWHFV		2.5															HVSOF6	
BH26M0AWHFV		2.6	HVSOF6															
BH27M0AWHFV		2.7	±1														60 (I <sub>o</sub> =100mA)	HVSOF6
BH28M0AWHFV		2.8																HVSOF6
BH29M0AWHFV		2.9																HVSOF6
BH30M0AWHFV		3.0																HVSOF6
BH31M0AWHFV		3.1																HVSOF6
BH32M0AWHFV		3.2	HVSOF6															
BH33M0AWHFV		3.3	HVSOF6															
BH34M0AWHFV		3.4	HVSOF6															

### Single-Output LDO Regulators

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

#### 6.5V Resistance 200mA CMOS LDO Regulators supporting low output capacitance with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package/Part No.	
																SSON004X1010	SSOP5
BU10TD2/BU10TD3	1.7 to 5.5	1.0	±25mV	0.2	-	70	10 (I <sub>o</sub> =1 to 100mA)	35	70	0.47	0.47	✓	✓	✓	✓	BU10TD2WNVX	BU10TD3WG
BU1ATD2/-		1.05														BU1ATD2WNVX	-
BU11TD2/BU11TD3		1.1														BU11TD2WNVX	BU11TD3WG
BU1BDT2/-		1.15														BU1BDT2WNVX	-
BU12TD2/BU12TD3		1.2														BU12TD2WNVX	BU12TD3WG
BU1CTD2/BU1CTD3		1.25														BU1CTD2WNVX	BU1CTD3WG
BU13TD2/BU13TD3		1.3														BU13TD2WNVX	BU13TD3WG
BU15TD2/BU15TD3		1.5														BU15TD2WNVX	BU15TD3WG
BU18TD2/BU18TD3		1.8														BU18TD2WNVX	BU18TD3WG
BU1JTD2/BU1JTD3		1.85														BU1JTD2WNVX	BU1JTD3WG
BU19TD2/BU19TD3		1.9	BU19TD2WNVX		BU19TD3WG												
BU20TD2/BU20TD3		2.0	BU20TD2WNVX		BU20TD3WG												
BU2ATD2/-		2.05	BU2ATD2WNVX		-												
BU21TD2/BU21TD3		2.1	BU21TD2WNVX		BU21TD3WG												
BU23TD2/-		2.3	BU23TD2WNVX		-												
BU25TD2/BU25TD3		2.5	280 (I <sub>o</sub> =200mA)		BU25TD2WNVX											BU25TD3WG	
BU26TD2/BU26TD3		2.6	BU26TD2WNVX		BU26TD3WG												
BU27TD2/BU27TD3		2.7	BU27TD2WNVX		BU27TD3WG												
BU2HTD2/-		2.75	260 (I <sub>o</sub> =200mA)		BU2HTD2WNVX											-	
BU28TD2/BU28TD3		2.8	BU28TD2WNVX		BU28TD3WG												
BU2JTD2/BU2JTD3WG	2.85	BU2JTD2WNVX	BU2JTD3WG														
BU29TD2/BU29TD3	2.9	BU29TD2WNVX	BU29TD3WG														
BU30TD2/BU30TD3	3.0	240 (I <sub>o</sub> =200mA)	BU30TD2WNVX	BU30TD3WG													
BU31TD2/BU31TD3	3.1	BU31TD2WNVX	BU31TD3WG														
BU32TD2/BU32TD3	3.2	BU32TD2WNVX	BU32TD3WG														
BU33TD2/BU33TD3	3.3	220 (I <sub>o</sub> =200mA)	BU33TD2WNVX	BU33TD3WG													
BU34TD2/BU34TD3	3.4	BU34TD2WNVX	BU34TD3WG														

#### Automotive Resistance 200mA CMOS LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package/Part No.	
																SSON004X1216	HVSOF5
BU15TA2W	2.5 to 5.5	1.5	±25mV	0.2	-	70	10 (I <sub>o</sub> =0.01 to 100mA)	40	70	1.0	1.0	✓	✓	✓	✓	BU15TA2WNVX	BU15TA2WHFV
BU18TA2W		1.8														BU18TA2WNVX	BU18TA2WHFV
BU25TA2W		2.5														400 (I <sub>o</sub> =200mA)	BU25TA2WNVX
BU26TA2W		2.6	BU26TA2WNVX		BU26TA2WHFV												
BU27TA2W		2.7	BU27TA2WNVX		BU27TA2WHFV												
BU28TA2W		2.8	360 (I <sub>o</sub> =200mA)		BU28TA2WNVX											BU28TA2WHFV	
BU2JTA2W		2.85	BU2JTA2WNVX		BU2JTA2WHFV												
BU29TA2W		2.9	±1		BU29TA2WNVX											BU29TA2WHFV	
BU30TA2W		3.0	330 (I <sub>o</sub> =200mA)		BU30TA2WNVX											BU30TA2WHFV	
BU31TA2W		3.1	BU31TA2WNVX		BU31TA2WHFV												
BU32TA2W		3.2	BU32TA2WNVX		BU32TA2WHFV												
BU33TA2W		3.3	300 (I <sub>o</sub> =200mA)		BU33TA2WNVX											BU33TA2WHFV	
BU34TA2W		3.4	BU34TA2WNVX		BU34TA2WHFV												

#### Automotive Resistance 200mA CMOS LDO Regulators with Shutdown Switch (BUxxSD series V<sub>IN</sub>=1.7 to 6.0V)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BU12SD2MG-M	1.7 to 6.0	1.2	±2 (T <sub>a</sub> =-40 to +105°C)	0.2	400 (I <sub>o</sub> =100mA)	68	1 (I <sub>o</sub> =1 to 200mA)	33	100	1.0	1.0	✓	✓	✓	-	SSOP5	FSs	YES
BU15SD2MG-M		1.5			280 (I <sub>o</sub> =100mA)											SSOP5	FSs	YES
BU18SD2MG-M		1.8			150 (I <sub>o</sub> =100mA)											SSOP5	FSs	YES
BU25SD2MG-M		2.5			100 (I <sub>o</sub> =100mA)											SSOP5	FSs	YES
BU28SD2MG-M		2.8			85 (I <sub>o</sub> =100mA)											SSOP5	FSs	YES
BU30SD2MG-M		3.0			SSOP5											FSs	YES	
BU33SD2MG-M		3.3			SSOP5											FSs	YES	

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

6.5V Resistance 200mA CMOS LDO Regulators with Shutdown Switch																																	
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100															
BU10JA2MNVX-C	1.7 to 6.0	1.0	±36mV	0.2	800	70	10	35	70	0.47	0.47	✓	✓	✓	✓	SSON004R1010	FSs	YES															
BU11JA2MNVX-C		1.1			SSON004R1010											FSs	YES																
BU12JA2MNVX-C		1.2			SSON004R1010											FSs	YES																
BU1CJA2MNVX-C		1.25			600											SSON004R1010	FSs	YES															
BU15JA2MNVX-C		1.5			440											SSON004R1010	FSs	YES															
BU18JA2MNVX-C		1.8			380											SSON004R1010	FSs	YES															
BU25JA2MNVX-C		2.5	280		SSON004R1010	FSs	YES																										
BU28JA2MNVX-C		2.8	260		SSON004R1010	FSs	YES																										
BU2JJA2MNVX-C		2.85	240		SSON004R1010	FSs	YES																										
BU29JA2MNVX-C		2.9	240		SSON004R1010	FSs	YES																										
BU30JA2MNVX-C		3.0	220		SSON004R1010	FSs	YES																										
BU33JA2MNVX-C		3.3	220		SSON004R1010	FSs	YES																										
BU34JA2MNVX-C		3.4	220		SSON004R1010	FSs	YES																										
BU10JA2VG-C		1.0	±2		-	0.2	-	68	0.5	33	100	1.0	1.0	✓	✓	✓	-	SSOP5	FSs	YES													
BU12JA2VG-C		1.2																SSOP5	FSs	YES													
BU1CJA2VG-C		1.25																SSOP5	FSs	YES													
BU15JA2VG-C		1.5																SSOP5	FSs	YES													
BU18JA2VG-C		1.8																160	SSOP5	FSs	YES												
BU25JA2VG-C	2.5	100		SSOP5														FSs	YES														
BU28JA2VG-C	2.8	85		SSOP5														FSs	YES														
BU2JJA2VG-C	2.85	85		SSOP5														FSs	YES														
BU30JA2VG-C	3.0	85		SSOP5														FSs	YES														
BU33JA2VG-C	3.3	85		SSOP5														FSs	YES														
BU10JA2DG-C	1.0	✓		-														0.2	-	68	0.5	33	100	1.0	1.0	✓	✓	✓	-	SSOP5	FSs	YES	
BU12JA2DG-C	1.2																													SSOP5	FSs	YES	
BU1CJA2DG-C	1.25																													SSOP5	FSs	YES	
BU15JA2DG-C	1.5																													SSOP5	FSs	YES	
BU18JA2DG-C	1.8																													160	SSOP5	FSs	YES
BU25JA2DG-C	2.5																													100	SSOP5	FSs	YES
BU28JA2DG-C	2.8																													85	SSOP5	FSs	YES
BU2JJA2DG-C	2.85																													85	SSOP5	FSs	YES
BU30JA2DG-C	3.0		85		SSOP5	FSs	YES																										
BU33JA2DG-C	3.3		85		SSOP5	FSs	YES																										

6.5V Resistance 200mA CMOS LDO Regulators with Shutdown Switch WL-CSP type																		
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package (mm)		
BU18SA4WGWL	1.7 to 5.5	1.8	±2	0.2	100 (I <sub>o</sub> =150mA)	70	2	40	100	0.47	0.47	✓	✓	✓	-	UCSP50L1	0.8x0.8, H=Max 0.55mm	
BU25SA4WGWL		2.5			UCSP50L1											0.8x0.8, H=Max 0.55mm		
BU2FSA4WGWL		2.55			UCSP50L1											0.8x0.8, H=Max 0.55mm		
BU28SA4WGWL		2.8			80 (I <sub>o</sub> =150mA)											UCSP50L1	0.8x0.8, H=Max 0.55mm	
BU30SA4WGWL		3.0			UCSP50L1											0.8x0.8, H=Max 0.55mm		
BU33SA4WGWL		3.3			UCSP50L1											0.8x0.8, H=Max 0.55mm		

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

**Single-Output LDO Regulators** Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

**6.5V Resistance 150mA CMOS LDO Regulators with Shutdown Switch**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Package
BH25NB1WHFV	2.5 to 5.5	2.5	±1	0.15	250 (I <sub>o</sub> =100mA)	80	6 (I <sub>o</sub> =1 to 100mA)	60	50	0.1	2.2	✓	✓	✓	HVSOF5
BH28NB1WHFV		2.8													HVSOF5
BH2JNB1WHFV		2.85													HVSOF5
BH29NB1WHFV		2.9													HVSOF5
BH30NB1WHFV		3.0													HVSOF5
BH31NB1WHFV		3.1													HVSOF5
BH33NB1WHFV		3.3													HVSOF5

**6.5V Resistance 150mA CMOS LDO Regulators WL-CSP type**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Package (mm)											
BH15RB1WGUT	2.5 to 5.5	1.5	±25mV	0.15	-	63	2 (I <sub>o</sub> =1 to 100mA)	34	40	1.0	1.0	✓	✓	✓	VCSP60N1 1.04x1.0, H=Max 0.675											
BH18RB1WGUT		1.8													VCSP60N1 1.04x1.0, H=Max 0.675											
BH25RB1WGUT		2.5	±1		100 (I <sub>o</sub> =100mA)										60 (High speed mode)	10 (I <sub>o</sub> =10 to 100mA)	20	2	50	0.47	0.47	✓	✓	✓	✓	VCSP60N1 1.04x1.0, H=Max 0.675
BH28RB1WGUT		2.8																								VCSP60N1 1.04x1.0, H=Max 0.675
BH29RB1WGUT		2.9																								VCSP60N1 1.04x1.0, H=Max 0.675
BH30RB1WGUT		3.0																								VCSP60N1 1.04x1.0, H=Max 0.675
BH31RB1WGUT		3.1																								VCSP60N1 1.04x1.0, H=Max 0.675
BH33RB1WGUT		3.3																								VCSP60N1 1.04x1.0, H=Max 0.675

**6.5V Resistance 150mA CMOS LDO Regulators with Mode Switching Function**

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package														
BH12PB1WHFV	1.7 to 5.5	1.2	±25mV	0.15	-	60 (High speed mode)	10 (I <sub>o</sub> =10 to 100mA)	20	2	50	0.47	0.47	✓	✓	✓	✓	HVSOF5													
BH15PB1WHFV		1.5															-3.3 to +4.3	HVSOF5												
BH18PB1WHFV		1.8															HVSOF5													
BH25PB1WHFV		2.5	±1		-3.0 to +3.8												210 (I <sub>o</sub> =100mA)	60 (High speed mode)	10 (I <sub>o</sub> =10 to 100mA)	20	2	50	0.47	0.47	✓	✓	✓	✓	✓	HVSOF5
BH28PB1WHFV		2.8																												HVSOF5
BH29PB1WHFV		2.9																												HVSOF5
BH30PB1WHFV		3.0																												HVSOF5
BH31PB1WHFV		3.1																												HVSOF5
BH33PB1WHFV		3.3																												HVSOF5

**Ultra LDO type, Fast Transient Response**

Part No.	Output Current (A)	Input Voltage (V)		Output Voltage (V)	Voltage Accuracy (%)	Power Good	Adjustable Soft Start	UVLO	OCP	TSD	Package
		V <sub>CC</sub>	V <sub>IN</sub>								
BD3550HFN	0.5	4.3 to 5.5	0.95 to (V <sub>CC</sub> -1)	0.65 to 2.70	±1	-	✓	✓	Recovery	Recovery	HSON8
BD3507HFV	0.55	4.5 to 5.5	1.2 to (V <sub>CC</sub> -1)								HVSOF6
BD3551HFN	1.0	4.3 to 5.5	0.95 to (V <sub>CC</sub> -1)								HSON8
BD3506F	2.5		1.2 to (V <sub>CC</sub> -1)	0.65 to 2.50	SOP8						
BD3552HFN	2.0		0.95 to (V <sub>CC</sub> -1)	0.65 to 2.70	HSON8						
BD3508MUV	3.0		0.75 to (V <sub>CC</sub> -1)		VQFN020V4040						
BD3540NUV	0.5	3.0 to 5.5	0.95 to (V <sub>CC</sub> -1)	0.65 to 2.70	±1	✓	✓	✓	Recovery	Recovery	VSON010V3030
BD3541NUV	1.0										VSON010V3030
BD3512MUV	3.0	4.3 to 5.5	0.7 to (V <sub>CC</sub> -1)	0.65 to 2.70	±1	✓	✓	✓	Recovery	Latch	VQFN020V4040
BD3509MUV	4.0										VQFN020V4040
BD3504FVM	External FET	4.5 to 5.5	V <sub>O</sub> +(I <sub>O</sub> ×R <sub>on</sub> ) to (V <sub>CC</sub> -1)	0.65 to 2.50	±1	-	✓	✓	Latch	Latch	MSOP8
BD3521FVM	External FET			1.5							MSOP8

**Power Supply ICs for High Fidelity Audio**

Part No.	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Reference Voltage Accuracy (%)	Dropout Voltage (mV)	Noise Level (μVrms)	PSRR (dB)	Over Current Protection	Thermal Protection	Package
BD37201NUX	0.5	2.7 to 5.5	Variable 1.0 to 4.5	±1	200	3.3	90 (f=1kHz) 55 (f=1MHz)	✓	✓	VSON008X2030
☆BD37210AMUV	1.0	3.0 to 16.0	Variable 1.0 to 15.0	±1	300	4.6	78 (f=1kHz) 53 (f=1MHz)	✓	✓	VQFN020V4040
☆BD37215AMUV	1.0	-16.0 to -3.0	Variable -15.0 to -1.0	±1	300	5.1	90 (f=1kHz) 55 (f=1MHz)	✓	✓	VQFN020V4040

UVLO: Under Voltage Lock Out, OCP: Over Current Protection, TSD: Thermal Shut Down

☆: Under Development

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

### LDO Regulators with Voltage Detector and Watchdog Timer

#### 550mA Output LDO Regulators with Voltage Detector and Watchdog Timer

Part No.	Input Voltage (V)	LDO				Voltage Detector			Circuit Current (μA)	Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
		Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Detection Voltage (V)	Voltage Detection Precision (%)	Function					
<b>BD4271EFJ-C</b>	5.5 to 45.0	5	±2 (T <sub>J</sub> =-40 to +150°C)	0.55	0.2 (I <sub>O</sub> =300mA)	4.65	±2.6	4.65V Voltage Detector+WDT	75	T <sub>J</sub> =-40 to +150	HTSOP-J8	FSs	YES
HRP7											FSs	YES	
TO263-7											FSs	YES	

New

#### 500mA Output LDO Regulators with Voltage Detector and Watchdog Timer

<b>BD3021HFP</b>	5.6 to 36.0	5	±2 (T <sub>s</sub> =-40 to +125°C)	0.5	0.3 (I <sub>O</sub> =200mA)	4.5	±2	4.5V Voltage Detector+WDT (Active switch) Adjustable Voltage Detector+WDT	80	T <sub>s</sub> =-40 to +125	HRP7	YES
<b>BD3020HFP</b>											HRP7	YES

#### 200mA Output LDO Regulators with Voltage Detector and Watchdog Timer

<b>BD820F50EFJ-C</b>	5.9 to 42.0	5	±2 (T <sub>J</sub> =-40 to +150°C)	0.2	0.4 (I <sub>O</sub> =200mA)	4.2	±2.62	4.2V Voltage Detector+WDT	5	T <sub>J</sub> =-40 to +150	HTSOP-J8	FSs	YES
----------------------	-------------	---	---------------------------------------	-----	--------------------------------	-----	-------	---------------------------	---	-----------------------------	----------	-----	-----

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

### LDO Regulators with Voltage Detector

#### 500mA Output LDO Regulators with Voltage Detector

Part No.	Input Voltage (V)	LDO				Voltage Detector		Shutdown Switch	Circuit Current (μA)	Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
		Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	I/O Voltage Difference (V)	Detection Voltage (V)	Voltage Detection Precision (%)						
<b>BD42754FPJ-C</b>	5.5 to 45.0	5	±2 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6.0 to 28V, I <sub>O</sub> =5 to 400mA)	0.5	0.25 (I <sub>O</sub> =300mA)	4.62	±2.8	-	75	T <sub>J</sub> =-40 to +150	TO252-J5	FSs	YES
<b>BD42754FP2-C</b>											TO263-5	FSs	YES

#### 200mA/300mA Output LDO Regulators with Voltage Detector

<b>BD4269FJ-C</b>	5.5 to 45.0	5	±2 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6.0 to 16V, I <sub>O</sub> =1 to 100mA)	0.2	0.25 (I <sub>O</sub> =100mA)	Variable (with RADJ not used: 4.62V)	±2.6	-	70	T <sub>J</sub> =-40 to +150	SOP-J8	FSs	YES
<b>BD4269EFJ-C</b>				0.3							HTSOP-J8	FSs	YES

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

### Voltage Tracker

#### 500mA Voltage Tracker

Part No.	Input Voltage (V)	Output Current (A)	Offset Voltage (mV)	Circuit Current (μA)	Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
<b>BD3925FP-C</b>	4.5 to 36.0	0.5	±10 (T <sub>s</sub> =-40 to +125°C, V <sub>CC</sub> =6 to 36V, I <sub>O</sub> =5 to 200mA)	45	T <sub>s</sub> =-40 to +125	TO252-5	FSs	YES
<b>BD3925HFP-C</b>						HRP5	FSs	YES

#### 50mA/70mA Voltage Tracker

<b>BD42500G-C</b>	5.3 <sup>*2</sup> to 42.0	0.05	±15 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6 to 40V, I <sub>O</sub> =1 to 50mA)	40	T <sub>J</sub> =-40 to +150	SSOP5	FSs	YES
<b>BD42540FJ-C</b>	5.4 <sup>*2</sup> to 42.0	0.07	±10 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =5.5 to 26V, I <sub>O</sub> =0.1 to 60mA)	40	T <sub>J</sub> =-40 to +150	SOP-J8	FSs	YES

#### 250mA Voltage Tracker

<b>BD42530EFJ-C</b>	5.6 <sup>*2</sup> to 42.0	0.25	±10 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6 to 32V, I <sub>O</sub> =0.1 to 250mA)	40	T <sub>J</sub> =-40 to +150	HTSOP-J8	FSs	YES
<b>BD42530FP2-C</b>	5.6 <sup>*2</sup> to 42.0	0.25	±10 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6 to 32V, I <sub>O</sub> =0.1 to 250mA)	40	T <sub>J</sub> =-40 to +150	TO263-5	FSs	YES
<b>BD42530FPJ-C</b>	5.6 <sup>*2</sup> to 42.0	0.25	±10 (T <sub>J</sub> =-40 to +150°C, V <sub>CC</sub> =6 to 32V, I <sub>O</sub> =0.1 to 250mA)	40	T <sub>J</sub> =-40 to +150	TO252-J5	FSs	YES

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
\*2 5V setting



**Multi-Output LDO Regulators**

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

2ch LDO Regulators														
Part No.	Input Voltage (V)	Output Voltage1 (V)	Output Voltage2 (V)	Output voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Protection Circuit	Package
BA30E00WHFP	4.1 to 16.0	3.3	Variable 0.8 to 3.3	±2	0.6/0.6	0.7	0.3 (I <sub>o</sub> =300mA)	68 (3.3V output)	30 (I <sub>o</sub> =0 to 0.6A)	1.0	47	✓	Over-Current/ Temperature	HRP7
BA3259HFP	4.75 to 14.00				1.0/1.0	3.0	1.1 (I <sub>o</sub> =1A)	52	5 (I <sub>o</sub> =5mA to 1A)	3.3	1.0	-		HRP5
BA33D15HFP	4.1 to 16.0				1.5	0.5/0.5	0.7	0.25 (I <sub>o</sub> =250mA)	58 (1.5V output)	30 (I <sub>o</sub> =0 to 500mA)				HRP5
BA33D18HFP					1.8	HRP5								

2ch High Efficiency CMOS Regulator													
Part No.	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Ripple Rejection (dB)	Load Regulation (%)	Output Short Current (mA)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package (mm)	
BD70511GWL	LDO1	1.2	1.5	0.15	60	10	30	1.0	✓	✓	✓	✓	UCSP50L1C 1.9x1.2, H=Max 0.57
	LDO2			0.3			65						

2ch Variable Step CMOS LDO Regulators																									
Part No.	Input Voltage (V)	V <sub>OUT</sub>	Selectable Output Voltage (V)								Output Voltage Precision (%)	Output Current (A)	V <sub>SAT</sub> (mV) (I <sub>o</sub> =100mA)	Ripple Rejection (dB)	Load Regulation (%)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Low Voltage Protection	Package (mm)	
			1.5	1.8	1.8	1.8	1.8	2.6	2.8	2.9															2.8
BD7003NUX	2.5 to 5.5	1ch	1.5	1.8	1.8	1.8	1.8	2.6	2.8	2.9	2.8	1.8	0.3	90	66	0.2 (I <sub>o</sub> =1 to 300mA)	55	150	1.0	1.0	✓	✓	✓	✓	VSON008X2020
BD7004NUX		2ch	1.2	1.2	1.8	1.8	1.8	1.8	2.8	3.0	3.3														
BD7602GUL	2.7 to 5.5	1ch	3.0								2	0.1	-	45	0.7	10	-	4.7	4.7	✓	✓	✓	✓	VSP50L1C 1.6x1.6, H=Max 0.57	

3ch CMOS LDO Regulators																	
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision	Output Current (A)	V <sub>SAT</sub> (mV) (I <sub>o</sub> =200mA)	Ripple Rejection (dB)	Load Regulation (%)	ch	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package
BU6651NUX	2.8	±1%	360	65	2												
	1.8	±25mV	-	70	3												
BU6652NUX	2.8	±1%	360	65	1												
	1.5	±25mV	-	70	3												
BU6653NUX	2.8	±1%	360	65	1												
	1.8	±25mV	-	70	2												
	1.8	±25mV	-	70	3												
BU6654NUX	3.3	±1%	300	65	1												
	1.8	±25mV	-	70	2												
BU6655NUX	1.5	±25mV	-	70	3												
	3.3	±1%	300	65	1												
	2.8	±1%	360	65	2												
	1.8	±25mV	-	70	3												

**Linear Regulators for DDR SDRAM**

Termination Regulators for DDR SDRAM																									
Part No.	V <sub>CC</sub> Input Voltage (V)	V <sub>TT,IN</sub> Termination Input Voltage (V)	V <sub>DDO</sub> Reference Input Voltage (V)	V <sub>TT</sub> Output Voltage (V)	V <sub>TT</sub> Voltage Precision (mV)	V <sub>TT</sub> Output Current (A)	V <sub>REF</sub> Output Current (mA)	Features											Package						
								Enable	Soft Start	Power Good	UVLO	Output Ceramic Capacitors	Thermal Protection	DDR (VDDQ)	DDR1 (2.5V/2.6V)	DDR2 (1.8V)	DDR2L (1.5V)	LPDDR2 (1.2V)		DDR3 (1.5V)	DDR3L (1.35V)	DDR3U (1.25V)	LPDDR3 (1.2V)	DDR4 (1.2V)	
BD3533F	2.7 to 5.5	1.0 to 5.5	1.00 to 2.75	0.75 to 1.25	±30	±1.0	±20	✓	✓	-	✓	-	Recovery	✓	✓	-	-	-	-	-	-	-	-	-	SOP8
BD3533FVM								MSOP8																	
BD3533HFN								HSON8																	
BD3539FVM	2.7 to 5.5	1.0 to 5.5	1.00 to 2.75	0.75 to 1.25	±15	±1.0	±25	✓	✓	-	✓	✓	Recovery	✓	✓	✓	-	✓	-	-	-	-	-	MSOP8	
BD3539NUX								VSON008X2030																	
BD35390FJ	2.7 to 5.5	1.0 to 5.5	1.00 to 2.75	0.75 to 1.25	±15	±1.0	-	✓	✓	✓	✓	✓	Recovery	✓	✓	✓	-	✓	-	-	-	-	-	SOP-J8	

Automotive Termination Regulators for DDR SDRAM																									
Part No.	V <sub>CC</sub> Input Voltage (V)	V <sub>TT,IN</sub> Termination Input Voltage (V)	V <sub>DDO</sub> Reference Input Voltage (V)	V <sub>TT</sub> Output Voltage (V)	V <sub>TT</sub> Voltage Precision (mV)	V <sub>TT</sub> Output Current (A)	V <sub>REF</sub> Output Current (mA)	Features											Package	Automotive Grade AEC-Q100					
								Enable	Soft Start	Power Good	UVLO	Output Ceramic Capacitors	Thermal Protection	DDR (VDDQ)	DDR1 (2.5V/2.6V)	DDR2 (1.8V)	DDR2L (1.5V)	LPDDR2 (1.2V)			DDR3 (1.5V)	DDR3L (1.35V)	DDR3U (1.25V)	LPDDR3 (1.2V)	DDR4 (1.2V)
BD35395FJ-M	2.7 to 5.5	1.0 to 5.5	1.00 to 2.75	0.500 to 1.375	±13.5	±1.0	-	✓	✓	✓	✓	✓	Recovery	✓	✓	✓	-	✓	✓	-	-	-	-	SOP-J8	YES

Switching Regulators

Integrated MOSFET Switching Regulators (Buck Converters) P.45	Integrated MOSFET Switching Regulators (Boost and Buck-Boost Converters) P.47
External Switch Switching Regulators (Buck Controllers) P.48	External Switch Switching Regulators (Boost and Buck-Boost Controllers) P.48
For Automotive Switching Regulators P.48	

# Switching Regulators

## Integrated MOSFET Switching Regulators (Buck Converters)

### Resistance 7V or less 1A or less Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (µA)	Control Mode	Features					Package (mm)		
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection		Thermal Protection	
BD9122GUL	7	0.3	2.5 to 5.5	1 to 2	1	200	Current	—	—	✓	✓	Latch	Latch	VCSP50L2 2.5x1.1, H=0.55	
<b>Nano</b> BD70522GUL*1	6	0.5	2.5 to 5.5	1.2 to 3.3*2	1	0.18	On-time	✓	—	✓	✓	Recovery	Recovery	VCSP50L1C 1.76x1.56, H=0.57	
BD9161FVM	7	0.6	2.5 to 4.5	1.0 to 3.3	1	200	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9161FVM-LB	7	0.6	2.5 to 4.5	1.0 to 3.3	1	200	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9120HFN	7	0.8	2.7 to 4.5	1.0 to 1.5	1	200	Current	—	—	✓	✓	Latch	Latch	HSO8	
BD9102FVM	7	0.8	4.0 to 5.5	1.24	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD8966FVM	7	0.8	4.0 to 5.5	1.0 to 2.5	1	—	Current	—	—	✓	—	Latch	Latch	MSOP8	
BD9106FVM	7	0.8	4.0 to 5.5	1.0 to 2.5	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9106FVM-LB	7	0.8	4.0 to 5.5	1.0 to 2.5	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9109FVM	7	0.8	4.5 to 5.5	3.3	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9109FVM-LB	7	0.8	4.5 to 5.5	3.3	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD8967FVM	7	0.8	4.5 to 5.5	3.3	1	—	Current	—	—	✓	—	Latch	Latch	MSOP8	
BD9104FVM	7	0.8	4.5 to 5.5	3.3	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BD9A100MUV	7	1	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9A101MUV-LB	7	1	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9B100MUV	7	1	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	35	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
BU90008GWZ	7	1	2.3 to 5.5	1	3.6	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90003GWZ	7	1	2.3 to 5.5	1.2	4	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90007GWZ	7	1	2.3 to 5.5	1.25	4	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90009GWZ	7	1	2.3 to 5.5	1.3	4.2	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90004GWZ	7	1	2.3 to 5.5	1.8	5.4	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90104GWZ	7	1	2.3 to 5.5	1.8	5.4	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90090GWZ	7	1	2.3 to 5.5	1.83	5.4	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90005GWZ	7	1	2.3 to 5.5	2.5	6	45	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90006GWZ	7	1	2.3 to 5.5	3	6	55	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	
BU90002GWZ	7	1	4.0 to 5.5	3.3	6	55	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 1.3x0.9, H=0.4	

### Resistance 7V or less 1.2 to 3A Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (µA)	Control Mode	Features					Package (mm)		
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection		Thermal Protection	
BD9123MUV	7	1.2	2.7 to 5.5	0.85 to 1.2	1	300	Current	✓	—	✓	✓	Latch	Latch	VQFN016V3030	
BD8964FVM	7	1.2	4.0 to 5.5	1.0 to 1.8	1	—	Current	—	—	✓	—	Latch	Latch	MSOP8	
BD9107FVM	7	1.2	4.0 to 5.5	1.0 to 1.8	1	250	Current	—	—	✓	✓	Latch	Latch	MSOP8	
BU90028NUX	7	1.5	2.3 to 5.5	1.18	1	53	On-time	—	—	✓	✓	Recovery	Recovery	VSON008X2030	
BU90023NUX	7	1.5	2.3 to 5.5	1.23	1	53	On-time	—	—	✓	✓	Recovery	Recovery	VSON008X2030	
BD9B200MUV	7	2	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	40	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
<b>New</b> BD9A201FP4-LBZ	7	2	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	—	✓	—	Recovery	Recovery	TSOT23-8L	
BD9110NV	7	2	4.5 to 5.5	1.0 to 2.5	1	250	Current	—	—	✓	✓	Latch	Latch	SON008V5060	
BD89630EFJ	7	2	2.7 to 5.5	1.0 to 2.5*2	1	—	Current	—	—	✓	—	Latch	Latch	HTSOP-J8	
BD8960NV	7	2	2.7 to 5.5	1.0 to 2.5*2	1	—	Current	—	—	✓	—	Latch	Latch	SON008V5060	
BD9130NV	7	2	2.7 to 5.5	1.0 to 2.5*2	1	250	Current	—	—	✓	✓	Latch	Latch	SON008V5060	
BD8961NV	7	2	4.5 to 5.5	3.3	1	—	Current	—	—	✓	—	Latch	Latch	SON008V5060	
BD9111NV	7	2	4.5 to 5.5	3.3	1	250	Current	—	—	✓	✓	Latch	Latch	SON008V5060	
BD8962MUV	7	3	2.7 to 5.5	0.8 to 2.5*2	1	—	Current	—	—	✓	—	Latch	Latch	VQFN020V4040	
BD8963EFJ	7	3	2.7 to 5.5	1.0 to 2.5*2	1	—	Current	—	—	✓	—	Latch	Latch	HTSOP-J8	
BD9139MUV	7	3	2.7 to 5.5	0.8 to 3.3*2	1	200	Current	—	—	✓	✓	Latch	Latch	VQFN016V3030	
BD9A300MUV	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9A301MUV-LB	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9A302QWZ	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	—	—	✓	✓	Recovery	Recovery	UMMP008AZ020 2.0x2.0, H=0.4	
BD9B305QUZ	7	3	2.7 to 5.5	0.6 to (V <sub>IN</sub> ×0.8)	1	15	On-time	✓	✓	✓	✓	Recovery	Recovery	VMMP08LZ2020 2.0x2.0, H=0.4	
BD9B333GWZ	7	3	2.7 to 5.5	0.6 to (V <sub>IN</sub> ×0.8)	1.3	50	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	UCSP35L1 1.98x1.8, H=0.4
BD9B300MUV	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	35	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
BD9B301MUV-LB	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	45	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
BD9B304QWZ	7	3	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	40	On-time	—	—	✓	✓	Deep	Recovery	Recovery	UMMP008AZ020 2.0x2.0, H=0.4

\*1 BD70522GUL has an ultra-high efficiency battery management solution evaluation board "REFLV BMS001-EVK-001". This board is equipped with NGK Insulators, Ltd.'s new thin, large-capacity lithium-ion secondary battery "EnerCera™". For details, please refer to the web.

\*2 Restrictions depend on input/output voltage conditions.

 Nano Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization. Nano Mark is a product equipped with Nano Energy™ ultra-low-current technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

## Integrated MOSFET Switching Regulators (Buck Converters)

### Resistance 7V or less 4A or more Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features						Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		
BD9137MUV	7	4	2.7 to 5.5	0.8 to 3.3*	1	250	Current	-	-	✓	✓	Recovery	Recovery	VQFN020V4040	
BD91361MUV	7	4	2.7 to 5.5	0.8 to 3.3*	1	250	Current	-	-	✓	✓	Latch	Latch	VQFN020V4040	
BD9A400MUV	7	4	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	350	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9B400MUV	7	4	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	45	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
BD91364BMUU	7	5	2.9 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	1.7	150	On-time	✓	✓	✓	✓	Latch	Recovery	VQFN20U4040M	
BD9B500MUV	7	5	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	45	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
BD9A600MUV	7	6	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.7)	1	400	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030	
BD9B600MUV	7	6	2.7 to 5.5	0.8 to (V <sub>IN</sub> ×0.8)	2/1	45	On-time	✓	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030

### Resistance 20V or less 1A or less Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features						Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		Over-Voltage Protection
BD8312HFN	15	0.8	3.5 to 14.0	1.2 to 12.0*	1.5	600	Voltage	-	-	✓	-	-	Recovery	-	HSO8
BD8313HFN	15	1	3.5 to 14.0	1.2 to 12.0*	1	600	Voltage	-	-	✓	-	-	Recovery	-	HSO8

### Resistance 20V or less 2A to 3A Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features						Package (mm)	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		Over-Voltage Protection
BD9141MUV	15	2	4.5 to 13.2	2.5 to 6.0*	0.5	300	Current	-	-	✓	✓	Latch	Latch	-	VQFN020V4040
BD95821MUV	15.2	2	7.5 to 15.0	0.8 to (V <sub>IN</sub> ×0.5) (V <sub>IN</sub> ×0.5)≤5.5	0.5 to 0.8	1,200	H <sup>2</sup> Reg	✓	-	✓	-	Latch	Recovery	✓	VQFN016V3030
BD9325FJ	20	2	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	SOP-J8
BD9325FJ-LB	20	2	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	SOP-J8
BD9859EFJ	15	3	5 to 14	1.0 to (V <sub>IN</sub> ×0.7)	0.75	2,800	Current	-	-	-	-	Recovery	Recovery	-	HTSOP-J8
BD95831MUV	15.2	3	7.5 to 15.0	0.8 to (V <sub>IN</sub> ×0.5) (V <sub>IN</sub> ×0.5)≤5.5	0.5 to 0.8	1,200	H <sup>2</sup> Reg	✓	-	✓	-	Latch	Recovery	✓	VQFN016V3030
BD9D320EFJ	20	3	4.5 to 18.0	0.765 to 7.0 (V <sub>IN</sub> ×0.07) to (V <sub>IN</sub> ×0.65)	0.7	1,000	On-time	-	✓	✓	-	Recovery	Recovery	-	HTSOP-J8
BD9D300MUV	20	3	4.0 to 17.0	0.9 to 5.25	1.25	20	On-time	✓	✓	✓	✓	Recovery	Recovery	✓	VQFN016V3030
BD9C301FJ	20	3	4.5 to 18.0	(V <sub>IN</sub> ×0.125) to (V <sub>IN</sub> ×0.7)	0.5	1,500	Current	-	-	✓	-	Latch	Recovery	-	SOP-J8
BD9C301FJ-LB	20	3	4.5 to 18.0	(V <sub>IN</sub> ×0.125) to (V <sub>IN</sub> ×0.7)	0.5	1,500	Current	-	-	✓	-	Latch	Recovery	-	SOP-J8
BD9D321EFJ	20	3	4.5 to 18.0	0.765 to 7.0 (V <sub>IN</sub> ×0.07) to (V <sub>IN</sub> ×0.65)	0.7	700	On-time	-	✓	✓	✓	Recovery	Recovery	-	HTSOP-J8
BD9D322QWZ	20	3	4.5 to 18.0	0.765 to 7.0 (V <sub>IN</sub> ×0.07) to (V <sub>IN</sub> ×0.65)	0.7	700	On-time	-	✓	✓	✓	Recovery	Recovery	-	UMMP008Z2020 2.0×2.0, H=0.4
BD9D323QWZ	20	3	4.5 to 18.0	0.765 to 7.0 (V <sub>IN</sub> ×0.07) to (V <sub>IN</sub> ×0.65)	0.7	1,000	On-time	-	✓	✓	-	Recovery	Recovery	-	UMMP008Z2020 2.0×2.0, H=0.4
BD9326EFJ	20	3	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	HTSOP-J8
BD9326EFJ-LB	20	3	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	HTSOP-J8

### Resistance 20V or less 4A or more Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features						Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		Over-Voltage Protection
BD95841MUV	15.2	4	7.5 to 15.0	0.8 to (V <sub>IN</sub> ×0.5) (V <sub>IN</sub> ×0.5)≤5.5	0.5 to 0.8	1,200	H <sup>2</sup> Reg	✓	-	✓	-	Latch	Recovery	✓	VQFN016V3030
BD9C401EFJ	20	4	4.5 to 18.0	(V <sub>IN</sub> ×0.125) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.125)≥0.8	0.5	1,500	Current	-	-	✓	-	Latch	Recovery	-	HTSOP-J8
BD9327EFJ	20	4	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	HTSOP-J8
BD9327EFJ-LB	20	4	4.75 to 18.0	0.9 to (V <sub>IN</sub> ×0.9)	0.38	2,100	Current	-	✓	-	-	Recovery	Recovery	-	HTSOP-J8
BD9C501EFJ	20	5	4.5 to 18.0	(V <sub>IN</sub> ×0.075) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.075)≥0.8	0.5	1,500	Current	-	-	✓	-	Latch	Recovery	-	HTSOP-J8
BD9C601EFJ	20	6	4.5 to 18.0	(V <sub>IN</sub> ×0.075) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.075)≥0.8	0.5	1,500	Current	-	-	✓	-	Latch	Recovery	-	HTSOP-J8
BD95861MUV	20	6	7.5 to 18.0	0.8 to (V <sub>IN</sub> ×0.5) (V <sub>IN</sub> ×0.5)≤5.5	0.35 to 0.80	1,200	H <sup>2</sup> Reg	✓	-	✓	-	Latch	Recovery	✓	VQFN024V4040

### Resistance 22V or more 1A or less Single Output Buck Converters

Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features						Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		Over-Voltage Protection
BD9G102G-LB	45	0.5	6 to 42	(V <sub>IN</sub> ×0.08) to (V <sub>IN</sub> ×0.8) (V <sub>IN</sub> ×0.08)≥0.75	1	500	Current	-	-	-	-	Recovery	Recovery	✓	SSOP6
BD9G101G	45	0.5	6 to 42	(V <sub>IN</sub> ×0.15) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.15)≥1.0	1.5	700	Current	-	-	-	-	Recovery	Recovery	-	SSOP6
BD9227F	22	1	6 to 20	(V <sub>IN</sub> ×0.252) to V <sub>IN</sub> (V <sub>IN</sub> ×0.252)≥1.0	1	400	Current	-	-	-	-	Recovery	Recovery	-	SOP8
BD9E104FJ	30	1	7 to 26	(V <sub>IN</sub> ×0.143) to (V <sub>IN</sub> ×0.5) (V <sub>IN</sub> ×0.143)≥1.0	0.57	250	Current	-	-	✓	✓	Recovery	Recovery	✓	SOP-J8
BD9E101FJ-LB	40	1	7 to 36	(V <sub>IN</sub> ×0.085) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.085)≥1.0	0.57	1,500	Current	-	-	✓	-	Recovery	Recovery	✓	SOP-J8
BD9E100FJ-LB	40	1	7 to 36	(V <sub>IN</sub> ×0.15) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.15)≥1.0	1	1,500	Current	-	-	✓	-	Recovery	Recovery	✓	SOP-J8
<b>Nano</b> BD9V101MUF-LB	70	1	16 to 60	0.8 to 5.5	1.9 to 2.3	2,500	Current	✓	-	✓	-	Recovery	Recovery	✓	VQFN24FV4040

\*Restrictions depend on input/output voltage conditions.


**Nano** Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization. **Nano** Mark is a product equipped with Nano Pulse Control™ ultra-high-speed pulse control technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

Resistance 22V or more 1.2A to 3A Single Output Buck Converters																
Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection		
BD9E151ANUX	30	1.2	6 to 28	1.0 to (V <sub>IN</sub> ×0.7) or (V <sub>IN</sub> -5.0)*2	0.6	800	Current	-	✓	-	-	-	Recovery	Recovery	✓	VSON008X2030
BD9701CP-V5	36	1.5	8 to 35	1.0 to (V <sub>IN</sub> -3.0)	0.1	4,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO220CP-V5
BD9701FP	36	1.5	8 to 35	1.0 to (V <sub>IN</sub> -3.0)	0.1	4,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO252-5
BD9703CP-V5	36	1.5	8 to 35	1.0 to (V <sub>IN</sub> -3.0)	0.3	5,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO220CP-V5
BD9703FP	36	1.5	8 to 35	1.0 to (V <sub>IN</sub> -3.0)	0.3	5,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO252-5
BD9870FPS	36	1.5	8 to 35	1.0 to (0.8×(V <sub>IN</sub> -I <sub>O</sub> ×RON))	0.9	5,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO252S-5
BD9873CP-V5	36	1.5	8 to 35	1.0 to (0.8×(V <sub>IN</sub> -I <sub>O</sub> ×RON))	0.11	5,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO220CP-V5
BD9G201EFJ-LB	45	1.5	4.5 to 42.0	0.8 to V <sub>IN</sub> *1	0.3	1,200	Current	-	-	-	-	-	Recovery	Recovery	-	HTSOP-J8ES
BD9778HFP	36	2	7 to 35	(V <sub>IN</sub> ×0.06) to V <sub>IN</sub> (V <sub>IN</sub> ×0.06)≥1.0	0.05 to 0.50	3,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	HRP7
BD9E301EFJ-LB	40	2.5	7 to 36	(V <sub>IN</sub> ×0.0855) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.0855)≥1.0	0.57	1,500	Current	-	-	✓	-	-	Recovery	Recovery	✓	HTSOP-J8
BD9E300EFJ-LB	40	2.5	7 to 36	(V <sub>IN</sub> ×0.15) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.15)≥1.0	1	1,500	Current	-	-	✓	-	-	Recovery	Recovery	✓	HTSOP-J8
BD9E302EFJ	30	3	7 to 28	(V <sub>IN</sub> ×0.11) to (V <sub>IN</sub> ×0.7) (V <sub>IN</sub> ×0.11)≥1.0	0.55	290	Current	-	-	✓	✓	-	Recovery	Recovery	✓	HTSOP-J8
BD95513MUV	30	3	4.5 to 28.0	0.7 to 5.0	0.2 to 1.0	1,200	H <sup>3</sup> Reg	✓	✓	✓	✓	-	Latch	Recovery	✓	VQFN032V5050
BD9702CP-V5	36	3	8 to 35	1.0 to (V <sub>IN</sub> -3.0)	0.11	4,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO220CP-V5
BD9874CP-V5	36	3	8 to 35	1.0 to (0.8×(V <sub>IN</sub> -I <sub>O</sub> ×RON))	0.11	5,000	Voltage	-	-	-	-	-	Recovery	Recovery	-	TO220CP-V5
BD9E303EFJ-LB	40	3	7 to 36	(V <sub>IN</sub> ×0.06) to (V <sub>IN</sub> ×0.8) (V <sub>IN</sub> ×0.06)≥1.0	0.3	2,200	Current	-	-	✓	-	-	Recovery	Recovery	✓	HTSOP-J8
BD9G341AEFJ	80	3	12 to 76	1.0 to (V <sub>IN</sub> ×0.9)*1	0.05 to 0.75	1,500	Current	-	-	-	-	-	Recovery	Recovery	✓	HTSOP-J8
BD9G341AEFJ-LB	80	3	12 to 76	1.0 to (V <sub>IN</sub> ×0.9)*1	0.05 to 0.75	1,500	Current	-	-	-	-	-	Recovery	Recovery	✓	HTSOP-J8

Resistance 22V or more 4A or more Single Output Buck Converters																
Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package	
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection		
BD95514MUV	30	4	4.5 to 28.0	0.7 to 5.0	0.2 to 1.0	1,300	H <sup>3</sup> Reg	✓	✓	✓	✓	-	Latch	Recovery	✓	VQFN032V5050
BD9F500QUZ	39	3 or 5	4.5 to 36.0	0.6 to 14.0	0.6, 1.0, 2.2	20	On-time	✓	✓	✓	✓	-	Recovery	Recovery	✓	VMMMP16LZ3030
BD9G500EFJ-LA	80	5	7 to 76	1.0 to (0.97×V <sub>IN</sub> )*1	0.1 to 0.65	750	Current	-	-	-	-	-	Recovery	Recovery	✓	HTSOP-J8
BD95500MUV	24	6	3 to 20	0.7 to 5.0	0.2 to 1.0	1,200	H <sup>3</sup> Reg	✓	✓	✓	✓	-	Latch	Recovery	✓	VQFN040V6060
BD9F800MUX	30	8	4.5 to 28.0	0.765 to 13.5*1	0.3, 0.6	850	On-time	✓	-	✓	-	-	Recovery	Recovery	-	VQFN11X3535A

Dual Output Buck Converters														
Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features					Package	
								Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection		
BD9151MUV	7	I <sub>O1</sub> : 0.4 I <sub>O2</sub> : 0.8	2.8 to 5.5	V <sub>O1</sub> : 1.8 V <sub>O2</sub> : 1.2	1	400	Current	✓	✓	-	Latch	Latch	-	VQFN020V4040
BD9152MUV	7	I <sub>O1</sub> : 1.5 I <sub>O2</sub> : 1.5	4.5 to 5.5	V <sub>O1</sub> : 3.3 V <sub>O2</sub> : 0.8 to 2.5	1	500	Current	✓	✓	-	Latch	Latch	-	VQFN020V4040
BD93291EFJ	30	I <sub>O1</sub> : 2.5 I <sub>O2</sub> : 1.5	8 to 26	V <sub>O1</sub> : 5.0 V <sub>O2</sub> : 0.8 to 4.0	1.5 to 2.5	600	H <sup>3</sup> Reg	✓	✓	-	Recovery	Recovery	-	HTSOP-J8
BD95830MUV	15.1	I <sub>O1</sub> : 3.0 I <sub>O2</sub> : 3.0	7.5 to 15	V <sub>O1</sub> : 0.8 to 5.5 V <sub>O2</sub> : 0.8 to 5.5	0.4 to 0.8	1,700	H <sup>3</sup> Reg	✓	-	-	Latch	Recovery	Latch	VQFN032V5050

\*1 Restrictions depend on input/output voltage conditions.  
\*2 The lower voltage is output.

 Nano Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization. Nano Mark is a product equipped with Nano Pulse Control™ ultra-high-speed pulse control technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

### Integrated MOSFET Switching Regulators (Boost and Buck-Boost Converters)

Single Output Boost and Buck-Boost Converters																
Part No.	Input Voltage Maximum Rating (V)	Switch Current Limit (mA)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package	
								Boost	Buck-Boost	SEPIC	Inverting	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection		Thermal Protection
BU33DV5G	6	10	1.75 to 4.50	3.3	0.1	250	Current	✓	-	-	-	✓	-	Recovery	✓	SSOP5
BU33DV7NUX	7	300	1.8 to 5.5	3.3	0.6	25	Current	✓	-	-	-	✓	✓	Recovery	✓	VSON010V3030
BU34DV7NUX	7	300	1.8 to 5.5	3.4	0.6	25	Current	✓	-	-	-	✓	✓	Recovery	✓	VSON010V3030
BU33UV7NUX	6.5	500	0.6 to 4.5	3.3	0.8	7	Current	✓	-	-	-	✓	✓	Recovery	✓	VSON010X3020
BD8152FVM	7	1,400	2.5 to 5.5	V <sub>IN</sub> to 14	0.6/1.2	1,200	Current	✓	✓	✓	-	-	-	Recovery	✓	MSOP8
BD8158FVM	7	1,400	2.1 to 4.0	V <sub>IN</sub> to 14	0.6/1.2	1,200	Current	✓	✓	✓	-	-	-	Recovery	✓	MSOP8
BD83070GWL	6	2,000	2.0 to 5.5	2.5 or 3.3	1.5	2.8	Current	-	✓	-	-	✓	✓	Recovery	✓	UCSP50L1C
BD8306MUV	7	2,000	1.8 to 5.5	1.8 to 5.2	0.3 to 2.0	500	Voltage	✓	✓	-	-	✓	-	Latch	✓	VQFN016V3030
BD8311NUV	14	2,500	3.5 to 11.0	4 to 11	1.2	600	Voltage	✓	-	-	-	-	-	Latch	✓	VSON010V3030
BD8314NUV	14	2,500	3 to 12	4 to 12	1.2	600	Voltage	✓	-	-	-	-	-	Latch	✓	VSON010V3030

Dual Output Boost and Buck-Boost Converters															
Part No.	Input Voltage Maximum Rating (V)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package	
							Boost	Buck-Boost	SEPIC	Inverting	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection		Thermal Protection
BD8317GWL	7	2.5 to 5.5	V <sub>O1</sub> : -9.0 to -1.0 V <sub>O2</sub> : V <sub>IN</sub> to 18	0.8	500	Current	✓	-	-	✓	-	-	Latch	✓	UCSP50L1
BD8316GWL	7	2.5 to 5.5	V <sub>O1</sub> : -9.0 to -1.0 V <sub>O2</sub> : V <sub>IN</sub> to 18	1.6	500	Current	✓	-	-	✓	-	-	Latch	✓	UCSP50L1
BD83854GWL	7	2.5 to 4.5	±5.4	1.0/0.5	2,500	Current	✓	-	-	✓	✓	-	Latch	✓	UCSP50L1C
BD83854MUV	7	2.5 to 4.5	±5.4	1.0/0.5	2,500	Current	✓	-	-	✓	✓	-	Latch	✓	VQFN20PV3535

## External Switch Switching Regulators (Buck Controllers)

Single Output Buck Controllers															
Part No.	Input Voltage Maximum Rating (V)	Input Voltage (V)	Supply Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package
								Power Good	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	
BD9305AFVM	20	4.2 to 18.0	—	1.25 to V <sub>IN</sub> *	0.1 to 0.8	1,500	Voltage	—	—	—	—	—	—	—	MSOP8
BD95601MUV-LB	28	4.5 to 25.0	—	0.75 to 2.0	0.2 to 0.5	1,500	H <sup>2</sup> Reg	✓	—	—	✓	✓	Latch	Recovery	VQFN020V4040
BD63536FJ	32	3 to 30	—	1.25 to V <sub>IN</sub> *	0.01 to 0.3	2,000	Voltage	—	—	—	—	—	Recovery	Recovery	SOP-J8
BD9845FV	36	3.6 to 35.0	—	1.0 to V <sub>IN</sub> *	0.1 to 1.5	2,400	Voltage	—	—	✓	—	—	Recovery	Recovery	SSOP-B14
BD9611MUV	60	10 to 56	—	(V <sub>IN</sub> ×0.02) to (V <sub>IN</sub> ×0.97) (V <sub>IN</sub> ×0.02)≥0.8*	0.05 to 0.50	2,000	Voltage	—	✓	✓	✓	—	Recovery	Recovery	VQFN020V4040

Dual Output Buck Controllers															
Part No.	Input Voltage Maximum Rating (V)	Input Voltage (V)	Supply Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package
								Power Good	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	
BD9536FV	16	7.5 to 15.0	—	0.7 to 5.5	0.2 to 0.6	1,600	H <sup>2</sup> Reg	—	—	✓	✓	—	Latch	Recovery	SSOP-B28
BD9535MUV	30	3 to 28	4.5 to 5.5	0.7 to 2.0	0.2 to 0.6	1,400	H <sup>2</sup> Reg	✓	—	✓	✓	✓	Latch	Recovery	VQFN032V5050
BD95602MUV-LB	30	5.5 to 28.0	—	1.0 to 5.5	0.15 to 0.50	250	H <sup>2</sup> Reg	✓	—	✓	✓	✓	Latch	Recovery	VQFN032V5050
BD9848FV	36	3.6 to 35.0	—	1.0 to V <sub>IN</sub> *	0.1 to 1.5	3,000	Voltage	—	—	✓	—	—	Recovery	Recovery	SSOP-B20

\*Restrictions depend on input/output voltage conditions.

## External Switch Switching Regulators (Boost and Buck-Boost Controllers)

Single Output Boost and Buck-Boost Controllers																
Part No.	Input Voltage Maximum Rating (V)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package		
							Boost	Buck-Boost	Inverting	Buck	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier		Over-Current Protection	Thermal Protection
BD8303MUV	15	2.7 to 14.0	1 to 12	0.2 to 1.0	650	Voltage	—	✓	—	—	—	—	✓	Latch	Recovery	VQFN016V3030
BD9306AFVM	20	4.2 to 18.0	V <sub>IN</sub> to (V <sub>IN</sub> /0.3)	0.1 to 0.8	1,500	Voltage	✓	—	—	—	—	—	Latch	Recovery	MSOP8	
BD9615MUV-LB	62	3.5 to 60.0	V <sub>IN</sub> to (V <sub>IN</sub> /0.2)	0.1 to 2.5	2,000	Voltage	✓	—	—	—	✓	—	Recovery	Recovery	VQFN16KV3030	

Dual Output Boost and Buck-Boost Controllers															
Part No.	Input Voltage Maximum Rating (V)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Circuit Current (μA)	Control Mode	Features							Package	
							Boost	Buck-Boost	Inverting	Buck	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier		Over-Current Protection
BD9851EFV	20	4 to 18	1 or more	0.01 to 0.3	2,500	Voltage	✓	—	✓	✓	—	—	Latch	Recovery	HTSSOP-B20
BA9743AFV	36	3.6 to 35.0	2.505 or more	0.01 to 0.8	1,600	Voltage	✓	—	✓	✓	—	—	Latch	Recovery	SSOP-B16
BA9744FV	36	2.5 to 35.0	1.222 or more	0.01 to 0.8	3,900	Voltage	✓	—	✓	✓	—	—	Latch	Recovery	SSOP-B16
BA9741F	36	3.6 to 35.0	2.5 or more	0.01 to 0.8	1,600	Voltage	✓	—	✓	✓	—	—	Latch	Recovery	SOP16
BA9741FS	36	3.6 to 35.0	2.5 or more	0.01 to 0.8	1,600	Voltage	✓	—	✓	✓	—	—	Latch	Recovery	SSOP-A16

## For Automotive Switching Regulators

Single Output Primary Integrated Switch Buck Converters																					
Part No.	Output FET		Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Output Voltage Accuracy (%)	Circuit Current (μA)	Switching Frequency (MHz)	Control Mode	Features							Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
	Upper (Typ)	Bottom (Typ)									Power Good	Sync	Adjustable Soft Start	Synchronous Rectification	Light-Load Efficiency	Over-Voltage Protection	Spread Spectrum				
Nano BD9100MUF-C	Nch (600mΩ)	Nch (400mΩ)	70	1	16 to 60	Adj. (0.8 to 5.5)	±2.0	2,500	1.9 to 2.3	Current	✓	—	—	✓	—	✓	—	—40 to +125	VQFN24FV4040	FSs	YES
Nano BD9P105EFV-C	210mΩ	140mΩ	42	1.0	3.5 to 40	0.8 to 8.5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P105MUF-C	200mΩ	130mΩ	42	1.0	3.5 to 40	0.8 to 8.5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
Nano BD9P135EFV-C	210mΩ	140mΩ	42	1.0	3.5 to 40	3.3	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P135MUF-C	200mΩ	130mΩ	42	1.0	3.5 to 40	3.3	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
Nano BD9P155EFV-C	210mΩ	140mΩ	42	1.0	3.5 to 40	5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P155MUF-C	200mΩ	130mΩ	42	1.0	3.5 to 40	5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
BD90610EFJ-C	Pch (160mΩ)	—	42	1.25	3.5 to 36.0	Adj. (0.8 to V <sub>IN</sub> )	±2.0	2,200	0.05 to 0.6	Current	—	✓	—	—	—	—	—	—40 to +125	HTSOP-J8	FSs	YES
Nano BD8P250MUF-C	Nch (110mΩ)	Nch (110mΩ)	42	2	3.5 to 36.0	5.0	±2.0	8	2.2	Current	✓	—	—	✓	✓	✓	✓	—40 to +125	VQFN24FV4040	FSs	YES
Nano BD9P205EFV-C	150mΩ	100mΩ	42	2.0	3.5 to 40	0.8 to 8.5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P205MUF-C	140mΩ	90mΩ	42	2.0	3.5 to 40	0.8 to 8.5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
Nano BD9P235EFV-C	150mΩ	100mΩ	42	2.0	3.5 to 40	3.3	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P235MUF-C	140mΩ	90mΩ	42	2.0	3.5 to 40	3.3	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
Nano BD9P255EFV-C	150mΩ	100mΩ	42	2.0	3.5 to 40	5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	HTSSOP-B20	FSs	YES
Nano BD9P255MUF-C	140mΩ	90mΩ	42	2.0	3.5 to 40	5	±1.75	10	2,200	Current	✓	✓	—	✓	✓	✓	✓	—40 to +125	VQFN20FV4040	FSs	YES
Nano BD9P233MUF-C	Pch (190mΩ)	Nch (120mΩ)	42	2	3 to 36	3.3	±2.0	26	0.2 to 2.4	Current	✓	✓	✓	✓	✓	✓	✓	—40 to +125	VQFN32FAV050	FSs	YES
BD99010EFV-M	Pch (170mΩ)	Nch (130mΩ)	42	2	3.5 to 36.0	3.3	±2.0	22	0.2 to 0.5	Current	—	—	—	✓	✓	✓	—	—40 to +105	HTSSOP-B24	FSs	YES
BD99011EFV-M	Pch (170mΩ)	Nch (130mΩ)	42	2	3.5 to 36.0	5.0	±2.0	22	0.2 to 0.5	Current	—	—	—	✓	✓	✓	—	—40 to +105	HTSSOP-B24	FSs	YES
BD9060F-C	Pch (300mΩ)	—	42	2	5 to 35	Adj. (0.8 to V <sub>IN</sub> )	±2.0	3,700	0.05 to 0.5	Voltage	—	✓	—	—	—	—	—	—40 to +125	SOP8	FSs	YES
BD9060HFP-C	Pch (300mΩ)	—	42	2	5 to 35	Adj. (0.8 to V <sub>IN</sub> )	±2.0	3,700	0.05 to 0.5	Voltage	—	✓	—	—	—	—	—	—40 to +125	HRP7	FSs	YES
BD90620EFJ-C	Pch (160mΩ)	—	42	2.5	3.5 to 36.0	Adj. (0.8 to V <sub>IN</sub> )	±2.0	2,200	0.05 to 0.6	Current	—	✓	—	—	—	—	—	—40 to +125	HTSOP-J8	FSs	YES
BD90620HFP-C	Pch (160mΩ)	—	42	2.5	3.5 to 36.0	Adj. (0.8 to V <sub>IN</sub> )	±2.0	2,200	0.05 to 0.6	Current	—	✓	—	—	—	—	—	—40 to +125	HRP7	FSs	YES
BD90640EFJ-C	Pch (160mΩ)	—	42	4	3.5 to 36.0	Adj. (0.8 to V <sub>IN</sub> )	±2.0	2,200	0.05 to 0.6	Current	—	✓	—	—	—	—	—	—40 to +125	HTSOP-J8	FSs	YES
BD90640HFP-C	Pch (160mΩ)	—	42	4	3.5 to 36.0	Adj. (0.8 to V <sub>IN</sub> )	±2.0	2,200	0.05 to 0.6	Current	—	✓	—	—	—	—	—	—40 to +125	HRP7	FSs	YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

**Nano** Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization. **Nano** Mark is a product equipped with Nano Pulse Control™ ultra-high-speed pulse control technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

Single Output Secondary Integrated Switch Buck Converters																					
Part No.	Output FET		Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Output Voltage Accuracy (%)	Circuit Current (μA)	Switching Frequency (MHz)	Control Mode	Features						Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
	Upper (Typ)	Bottom (Typ)									Power Good	Sync	Adjustable Soft Start	Synchronous Rectification	Light-Load Efficiency	Over-Voltage Protection					Output Discharge
BD9S000NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	0.6	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> )	±1.5	350	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
BD9SD11NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	0.6	2.7 to 5.5	1.15	±1.5	400	2.2	Current	✓	–	✓	✓	–	✓	–	–40 to +125	VSON008X2020	–	YES
BD9S012NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	0.6	2.7 to 5.5	1.1	±1.5	350	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
BD9S100NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	1	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> )	±1.5	350	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
BD9S110NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	1	2.7 to 5.5	1.2	±1.5	400	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
BD9S111NUX-C	Pch (270mΩ)	Nch (180mΩ)	7	1	2.7 to 5.5	1.8	±1.5	400	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
BD9S201NUX-C	Pch (150mΩ)	Nch (95mΩ)	7	2	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> )	±1.5	400	2.2	Current	✓	–	✓	✓	–	✓	✓	–40 to +125	VSON008X2020	FSs	YES
<b>New</b> BD9S231NUX-C	Pch (150mΩ)	Nch (95mΩ)	7	2	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> )	±1.5	400	2.2	Current	✓	–	✓	✓	–	✓	–	–40 to +125	VSON008X2020	FSs	YES
BD9S200MUF-C	Nch (35mΩ)	Nch (35mΩ)	7	2	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> ×0.8)	±1.5	650	2.2	Current	✓	✓	✓	✓	✓	✓	–	–40 to +125	VQFN16FV3030	FSs	YES
BD9S300MUF-C	Nch (35mΩ)	Nch (35mΩ)	7	3	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> ×0.8)	±1.5	650	2.2	Current	✓	✓	✓	✓	✓	✓	–	–40 to +125	VQFN16FV3030	FSs	YES
BD9S400MUF-C	Nch (35mΩ)	Nch (35mΩ)	7	4	2.7 to 5.5	Adj. (0.8 to V <sub>IN</sub> ×0.8)	±1.5	650	2.2	Current	✓	✓	✓	✓	✓	✓	–	–40 to +125	VQFN16FV3030	FSs	YES
Single Output Secondary Integrated Switch Buck-Boost Converters (Quick Buck Booster™)																					
Part No.	Output FET		Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Output Voltage Accuracy (%)	Circuit Current (μA)	Switching Frequency (MHz)	Control Mode	Features						Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
	Upper (Typ)	Bottom (Typ)									Power Good	Sync	Adjustable Soft Start	Synchronous Rectification	Light-Load Efficiency	Over-Voltage Protection					Spread Spectrum
BD8P250MUF-C + BD90302NUF-C	Nch (110mΩ)	Nch (110mΩ)	42	0.8	2.7 to 36	5.0	±2.0	8	2.2	Current	✓	–	–	✓	✓	✓	✓	–40 to +125	VQFN24FV4040	–+FSs	YES
	Pch (55mΩ)	Nch (65mΩ)						65													–40 to +125
Dual Output Primary External Switch Buck Controllers																					
Part No.	Output FET		Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Output Voltage Accuracy (%)	Circuit Current (μA)	Switching Frequency (MHz)	Control Mode	Features						Operating Temperature (°C)	Package	Automotive Grade AEC-Q100		
	Upper (Typ)	Bottom (Typ)									Power Good	Sync	Adjustable Soft Start	Synchronous Rectification	Light-Load Efficiency	Over-Voltage Protection				Spread Spectrum	
BD9015KV-M	Ext. Nch	Ext. Nch	35	–	3.9 to 30.0	Adj. (0.8 to 10)	±1.5	4,000	0.25 to 0.55	Current	✓	✓	✓	✓	–	✓ <sup>*2</sup>	–	–40 to +105	VQFP48C	–	YES
BD9016KV-M	Ext. Nch	Ext. Nch	35	–	3.9 to 30.0	Adj. (0.8 to 10)	±1.5	4,000	0.25 to 0.55	Current	✓	✓	✓	✓	–	✓ <sup>*3</sup>	–	–40 to +105	VQFP48C	–	YES
Single Output Primary External Switch Buck-Boost Controller																					
Part No.	Output FET		Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Output Voltage Accuracy (%)	Circuit Current (μA)	Switching Frequency (MHz)	Control Mode	Features						Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
	Upper (Typ)	Bottom (Typ)									Power Good	Sync	Adjustable Soft Start	Synchronous Rectification	Light-Load Efficiency	Over-Voltage Protection					Spread Spectrum
BD9035AEFV-C	Ext. Pch	Ext. Nch	40	–	3.8 to 30.0	Adj.	±1.5	7,000	0.1 to 0.6	Voltage	✓	✓	✓	–	–	✓	–	–40 to +125	HTSSOP-B24	FSs	YES

©Quick Buck Booster™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 ©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
 \*2 When over voltage is detected, Bottom FET is OFF  
 \*3 When over voltage is detected, Bottom FET is ON

## Switching Regulators (System Power Supplies)

System Power Supply ICs for Car Audio	P.50	System Power Supply ICs for LCD Panels	P.50
Programmable Gamma-Voltage Generator/Gamma Buffer Amplifiers	P.51	System Power Supply ICs for DSC/DVCs	P.51
System Power Supply ICs for Automotive	P.51	System Power Supply ICs for Industrial/Consumer Applications	P.52

# Switching Regulators (System Power Supplies)

## System Power Supply ICs for Car Audio

### System Power Supply ICs for Car Audio Systems

Part No.	Supply Voltage (V)	Function				Protection Circuit	Input I/F	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
		Reference Voltage (V)	Output Current (A)	Protection Circuit							
BD49101AEFS-M*2/ BD49101ARFS-M*3	5.5 to 25.0	Buck DC/DC1	Controller	0.8	—	Current Limit with Short Current Protection Circuit  Foldback	✓	I <sup>2</sup> C	HTSSOP-A44 (EXP-PAD down) HTSSOP-A44 package)	FSs/FSs	YES
		Buck DC/DC2	Low Power Standby REG	0.8	1.0						
		REG1	Secondly	0.6	0.5						
		REG2	—	0.8	0.1						
		REG3	Secondly	0.8	0.3						
		REG4	Secondly, Voltage Calibration	0.8	1.5 (Variable)						
		REG5	—	0.8	0.1						
		High Side Switch	—	—	0.5						
+B Detection Circuit	Over/Under Current Detection	—	—	—	—	—	—	—	—		

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
 \*2 BD49101AEFS-M: EXP-PAD down HTSSOP-A44 package  
 \*3 BD49101ARFS-M: EXP-PAD up HTSSOP-A44R package

## System Power Supply ICs for LCD Panels

### Single-Channel Source Voltage Output Power Supply IC with Gamma Buffer Amplifier

Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	V COM (ch)	Buffer for Gamma (ch)	Package
BD8157EFV	2.1 to 4.0	-40 to +125	0.6/1.2	up to 14	1	4	HTSSOP-B20

### Multi-Channel System Power Supply ICs for Small- to Midium-Sized Panels

Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	Output for Logic Voltage (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package
BD8153EFV	2.1 to 6.0	-40 to +125	1.1	up to 18.0	3.3	Variable	✓	—	HTSSOP-B24
BD8163EFV	2.1 to 6.0	-40 to +125	1.1	up to 18.0	2.5	Variable	✓	—	HTSSOP-B24
BD8179MUV	2.6 to 5.5	-40 to +85	1.2	up to 19.0	—	Variable	✓	1 (Buffer 4ch)	VQFN032V5050
BD9862MUV	1.8 to 5.5	-40 to +85	0.7 to 1.4	up to 15.0	—	Variable	✓	—	VQFN024V4040
BM81028AMVV	2.5 to 5.5	-40 to +85	0.6/1.2	8.0 to 14.5 0.1V step	1.1 to 1.3 50mV step 1.7 to 1.9/2.4 to 2.6 50mV step	13 to 26 0.2V step/ -4.0 to -9.3 0.1V step	✓	1	UQFN28V4040A

### Multi-Channel System Power Supply ICs for Large Panels

Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	Output for Logic Voltage 1 (V)	Output for Logic Voltage 2 (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package
BD8166EFV	6.0 to 18.0	-40 to +85	0.5	up to 18.0	Variable	—	Variable	✓	1	HTSSOP-B40
BD8160AEFV	8.0 to 18.0	-40 to +85	0.5/0.75	up to 18.0	Variable	—	Variable	✓	—	HTSSOP-B28
BD8165MUV	4.2 to 14.0	-40 to +105	0.65	up to 18.0	Variable	Variable	Variable	✓	1	VQFN048V7070
BM81100MUW	7.6 to 14.0	-40 to +85	0.75	up to 19.8	Variable	—	Variable	✓	1	VQFN40W6060A
BM81110MUW	8.6 to 14.7	-40 to +85	0.75/1.0	up to 19.8	Variable	Variable	Variable	✓	—	VQFN40W6060A
BM81004MUV	8.6 to 14.0	-40 to +105	0.75/1.0	up to 18.0	Variable	Variable	Variable	✓	1	VQFN48V7070A

### Automotive Panel Power Management ICs

Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage1 (V)	Output for Source Voltage2 (V)	Output for Logic Voltage (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD81842MUV-M	2.0 to 5.5	-40 to +105	2.1	up to 18.0	—	—	Variable	✓	1	VQFN24SV4040	FSs	YES
BD81810MUV-M	2.6 to 5.5	-40 to +105	0.525/1.05/2.1	5.0 to 17.0 0.1V step	—	0.9 to 3.4 50mV step	8.0 to 35.0 0.2V step/ -14.0 to -4.0 0.1V step	✓	1	VQFN32SV5050	FSs	YES
BD81810MUF-M*2										VQFN32FBV050	FSs	
BD81870EFV-M	2.5 to 5.5	-40 to +105	2.1	up to 18.0	V <sub>DD</sub> -13.0 to -1.0	—	—	✓	—	HTSSOP-B20	FSs	YES
BD81870MUF-M										VQFN20FV3535	FSs	

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
 \*2 Differences between BM81810MUF-M and BM81810MUV-M: BM81810MUF-M is a Wettable flank package.

Programmable Gamma-Voltage Generator/Gamma Buffer Amplifiers

High-precision Gamma Correction ICs with Built-in DAC											
Part No.	Supply Voltage (V)		Operating Temperature (°C)	Clock Frequency (MHz)	DAC (bit)	Serial I/F	Auto Data Read	V COM (ch)	Buffer for Gamma (ch)	Package	
	Gamma Collection Input	Logic									
BD8132FV	6 to 18	2.3 to 4.0	-30 to +85	5.0	10	3Wire	Built-in	1	18	SSOP-B40	
BD8139AEFV	6 to 18	2.3 to 4.0	-30 to +85	0.4	10	I <sup>2</sup> C BUS	Built-in	1	10	HTSSOP-B40	
BD8143MUV	8 to 18	2.3 to 5.5	-40 to +105	2.0	10	3Wire	—	—	12	VQFN032V5050	
BD81010MUV	8 to 18	2.1 to 3.6	-40 to +85	0.4	10	I <sup>2</sup> C BUS	—	1	14	VQFN032V5050	
BD8149MUV	10 to 18	2.1 to 3.6	-25 to +85	0.4	10	I <sup>2</sup> C BUS	Built-in	—	12	VQFN032V5050	
BD81026MUV	8 to 18	2.1 to 3.6	-25 to +85	0.4	10	I <sup>2</sup> C BUS	—	—	12	VQFN024V4040	

High-precision Gamma Correction IC with Built-in DAC for Automotive Panels												
Part No.	Supply Voltage (V)		Operating Temperature (°C)	Clock Frequency (MHz)	DAC (bit)	Serial I/F	Auto Data Read	V COM (ch)	Buffer for Gamma (ch)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
	Gamma Collection Input	Logic										
BD81849MUV-C	10 to 18	2.1 to 3.6	-40 to +105	0.4	10	I <sup>2</sup> C BUS	Built-in	—	12	VQFN32SV5050	FSs	YES

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

System Power Supply ICs for DSC/DVCs

System Switching Regulator ICs with Built-in FET (5V)														
Part No.	ch	Operating Frequency (MHz)	Supply Voltage (V)	Reference Voltage (V)	Reference Voltage Precision (%)	Topology					Built-in FET (ch)	Synchronous Rectifier (ch)	Load Switch (ch)	Package
						Step up (ch)	Step Down (ch)	Step up/down (ch)	Inverting (ch)	Buck-Boost (ch)				
BD9639MWW	6	0.5 to 2.0	2.5 to 5.5	0.4	±2.5	2	2	—	—	2	6	5	1	UQFN056V7070
BD9355MWW	7	2.0/1.0	1.5 to 5.5	0.8	±1.25	3	2	—	1	1	7	3	1	UQFN036V5050
				1.0	±1.0									
BD9757MWW	8	1.2	1.5 to 5.5	1.0	±1.0	3	4	—	1	—	7	5	2	UQFN044V6060
				0.8	±1.25									

System Switching Regulator ICs for Digital Video Cameras/for DSLRs													
Part No.	ch	Operating Frequency (MHz)	Supply Voltage (V)	Reference Voltage (V)	Reference Voltage Precision (%)	Step up (ch)	Step Down (ch)	Buck-Boost (ch)	Inverting/Stepdown (ch)	Built-in FET (ch)	Synchronous Rectifier (ch)	Load Switch (ch)	Package (mm)
BD9866GUL	4	0.6 to 1.5	4 to 14	0.6	±1.66	—	3	1	—	4	4	—	VCSP50L3 3.75x3.75, H=Max 0.55
				0.8	±1.25								
BD8355MWW	7	0.5 to 1.8	4 to 10	0.8	±1.25	1	6	—	—	7	6	—	UQFN056V7070
				1.0	±1.0								

Strobe Charge Control ICs									
Part No.	Supply Voltage (V <sub>CC</sub> ) (V)	Peak Current (A)	Full Charge Detection Voltage (V)	100nsec plus AC Full Charge Detection Voltage (V)	Full Terminal Output	Power Transistor Saturation Voltage I <sub>SW</sub> =1A (V)	IGBTOUTN (mA)	IGBTOUTP (mA)	Package
BD4233NUX	2.5 to 5.5	0.5 to 2.0	1±1.1%	1.0-1.1% to ±1.6%	Nch Open drain	0.4	60	140	VSON010X3020
BD4234NUX	2.5 to 5.5	0.5 to 2.0	1±1.1%	1.0-1.1% to ±1.6%	Nch Open drain	0.4	30	140	VSON010X3020

Backup Battery Switching ICs												
Part No.	Input Voltage (V)		Output Voltage (V)		Input Detection Voltage (V)		Output Detection Voltage (V)		Switching Voltage (V)	Unreg Reset Voltage (V)		Package
	V <sub>IN</sub>	V <sub>RO</sub>	V <sub>OUT</sub>	V <sub>OUT</sub>	-VDET1	+VDET1	-VDET2	+VDET2	V <sub>sw1</sub>	-VDET3 (VDETSEL=L)	-VDET4 (VDETSEL=H)	
BD7212MUV	3.50 to 6.00	3.2	3.2	3.2	3.5	3.6	2.10	2.23	3.06	1.5	2.5	VQFN016V3030
BD7213MUV	3.50 to 8.00	3.2	3.2	3.2	3.3	3.4	2.05	2.14	2.89	1.5	2.5	VQFN016V3030
BD7214MUV	3.50 to 8.00	3.2	3.2	3.2	3.3	3.4	2.05	2.14	2.89	—	—	VQFN016V3030

System Power Supply ICs for Automotive

2ch System Power Supply IC for Automotive															
Part No.	Supply Voltage (V)	Operating Frequency (kHz)	Operating Temperature (°C)	Sequence	Output Voltage Precision (%)	Output		Function					Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
						ch	V <sub>OUT</sub> /Max I <sub>OUT</sub>	Over Current Protection	TSD	Under/Over Voltage Detection	Reset	WDT			
BD39012EFV-C	4 to 36 (Rating 45V)	200 to 600	-40 to +125	External Control EN1: DC/DC EN2: LDO	±2	1ch (DC/DC)	Synchronous Buck DC/DC Converter (V <sub>OUT</sub> variable, 1A)	✓	✓	✓	—	WINDOW WDT	HTSSOP-B24	FSs	YES
						2ch (LDO)	LDO (5V, 0.4A)								

3ch System Power Supply IC for Automotive (ADAS)															
Part No.	Supply Voltage (V)	Switching Frequency (MHz)	Operating Temperature (°C)	Output Voltage Precision (%)	DC/DC Output			Function				Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
					Item	DC/DC1 Buck	DC/DC2 Buck	DC/DC3 Buck	Reset	Power Good	External LDO CTRL				Protection Circuit
BD86852MUF-C	4 to 18	2.2	-40 to +125	2	Output Voltage (V)	3.3 or 3.9	1.1 or 1.2	1.8	✓	✓	✓	OVP OCP UVLO TSD	VQFN24FV4040	FSs	YES
					Output Current (A)	2	1	1							

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Power Management



**System Power Supply ICs for Automotive**

4ch System Power Supply IC for Automotive (ADAS)														
Part No.	Supply Voltage (V)	Switching Frequency (MHz)	Operating Temperature (°C)	Output Voltage Precision (%)	DC/DC Output							Protection Circuit	Package	Automotive Grade AEC-Q100
					Item	DC/DC1 Buck	DC/DC2 Buck	DC/DC3 Buck	DC/DC4 Boost	Reset	WDT			
BD39031MUF-C	4 to 28	2.2	-40 to +125	±1.5 (DC/DC4 ±2.0)	Output Voltage (V)	3.3	1.2	0.8 to 2.5	5	✓	WINDOW WDT	OVP, OCP, SCP, TSD, T-Warning	VQFN40FV6060	YES
					Output Current (A)	Ext.FET	2.5	2.5	0.5					

Automotive System Power Supply (Renesas [R-Car] SoC series)																		
Part No.	Supply Voltage (V)	Switching Frequency (MHz)	Output Voltage Precision (%)	Item	DC/DC Output							Monitoring Function	Protection Circuit	Operating Temperature (°C)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
					DC/DC1 Boost	DC/DC2 Buck	DC/DC3 Buck	DC/DC4 Buck	LDO	DC (SW)	Reset							WDT
New BD9573MUF-M	3 to 3.6	2.25	±1.8	Output Voltage (V)	5	1.8	1.35 or 1.5	1.03	2.5	VIN7	✓	WINDOW WDT	UVLO, SCP, OCP, OVP, UVP, TSD	-40 to +105	VQFN56FV8080	FSs	YES	
				Output Current (A)	0.2	1	2	5.2	0.15	0.3								
New BD9576MUF-C	3 to 3.6	2.25	±1.8	Output Voltage (V)	5	1.8	1.35 or 1.5	1.03	2.5	VIN7	✓	WINDOW WDT	OVD/UVD TW	UVLO, SCP, OCP, OVP, UVP, TSD	-40 to +125	VQFN56FV8080	FSm	YES
				Output Current (A)	0.2	1	2	5.2	0.15	0.3								

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

**System Power Supply ICs for Industrial/Consumer Applications**

Power Management IC (PMIC) for Intel® Atom™ E3800 series Platform																					
Part No.	Supply Voltage (V)	Item	DC/DC Output							SW V1P8S	LDO output								I/F	Protection Circuit	Package (mm)
			DC/DC1 V1P0A	DC/DC2 V1P0S	DC/DC3 V1P8A	DC/DC4 VDDQ	DC/DC5 V1P0S5	DC/DC6 VCC	DC/DC7 VNN		LDO1 LRTC	LDO2 V3P3A	LDO3 V3P3S	LDO4 V1P24A	LDO5 VSDIO V1P24S	LDO6 V1P24S	LDO7 VTT	LDO8 VSFR			
BD9596BMWV	3.5 to 5.5	Output Voltage (V)	1.0	1.0	1.8	1.2 to 1.6	1.05	0.5 to 1.2	0.5 to 1.2	1.8	3.3	3.3	3.3	1.24	1.8 or 3.3	1.24	VDDQ/2	1.35	IMVP7	UVLO, TSD, SCP, OVP	UQFN88MV0100 10x10x1.0
		Output Current (mA)	700	2,600	1,800	4,500	1,300	13,000	13,000	800	120	100	500	50	20	50	530	500			

Power Management ICs for NXP i.MX series Applications Processors																											
Part No.	Correspondance	Item	DC/DC Output								LDO Output							White LED Driver	Lithium Charging Control	Coulomb Counter	RTC	GPO (ch)	I²C I/F	Package			
			BUCK1	BUCK2	BUCK3	BUCK4	BUCK5	BUCK6	BUCK7	BUCK8	LDO1	LDO2	LDO3	LDO4	LDO5	LDO6	LDO7								LDO8	LDO9	LDO10
BD71815AGW	i.MX 7Solo i.MX 7Dual	Output Voltage (V)	0.8 to 1.3	0.8 to 1.3	1.2 to 1.3	1.1 to 1.3	1.8 to 1.35	3.0 to 3.3	1.8 to 1.95	1.4	3.0 to 3.3	0.9, 1.6 to 1.9	0.8, 0.8	1.8 to 3.3	0.9, 1.8	1.8 to 3.3	1.8 to 3.3	3	1.8	0.5x DVREFIN	✓	✓	✓	✓	1	✓	UCSP55M4C
		Output Current (mA)	800	1,000	500	1,000	1,000	3,000	1,500	3,000	10	10	300	250	300	300	150	25	100	10	✓	✓	✓	✓	✓	✓	UQFN68CV8080
BD71837MWV	i.MX 8M Quad/Lite/Dual	Output Voltage (V)	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	3.0 to 3.3	1.8 to 1.95	1.4	3.0 to 3.3	0.9, 1.6 to 1.9	0.8, 0.8	1.8 to 3.3	0.9, 1.8	1.8 to 3.3	1.8 to 3.3	3	1.8	0.5x DVREFIN	✓	✓	✓	✓	1	✓	UQFN68CV8080	
		Output Current (mA)	3,600	4,000	2,100	1,000	2,500	3,000	1,500	3,000	10	10	300	250	300	300	150	25	100	10	✓	✓	✓	✓	✓	✓	UQFN68CV8080
BD71837AMWV	System PMIC for i.MX 8M Family	Output Voltage (V)	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	3.0 to 3.3	1.8 to 1.95	1.4	3.0 to 3.3	0.9, 1.6 to 1.9	0.8, 0.8	1.8 to 3.3	0.9, 1.8	1.8 to 3.3	1.8 to 3.3	3	1.8	0.5x DVREFIN	✓	✓	✓	✓	1	✓	UQFN68CV8080	
		Output Current (mA)	3,600	4,000	2,100	1,000	2,500	3,000	1,500	3,000	10	10	300	250	300	300	150	25	100	10	✓	✓	✓	✓	✓	✓	UQFN68CV8080
BD71847AMWV	System PMIC for i.MX 8M Mini Family	Output Voltage (V)	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	3.0 to 3.3	1.8 to 1.95	1.4	3.0 to 3.3	0.9, 1.6 to 1.9	0.8, 0.8	1.8 to 3.3	0.9, 1.8	1.8 to 3.3	1.8 to 3.3	3	1.8	0.5x DVREFIN	✓	✓	✓	✓	1	✓	UQFN56BV7070	
		Output Current (mA)	3,000	3,000	3,000	3,000	3,000	1,500	3,000	10	10	300	250	300	300	150	25	100	10	✓	✓	✓	✓	✓	✓	UQFN56BV7070	
BD71850MWV	System PMIC for i.MX 8M Nano Family	Output Voltage (V)	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	0.7 to 1.3	3.0 to 3.3	1.8 to 1.95	1.4	3.0 to 3.3	0.9, 1.6 to 1.9	0.8, 0.8	1.8 to 3.3	0.9, 1.8	1.8 to 3.3	1.8 to 3.3	3	1.8	0.5x DVREFIN	✓	✓	✓	✓	1	✓	UQFN56BV7070	
		Output Current (mA)	3,000	3,000	3,000	3,000	3,000	1,500	3,000	10	10	300	250	300	300	150	25	100	10	✓	✓	✓	✓	✓	✓	UQFN56BV7070	

© Intel® Atom™ is a trademark or registered trademark of Intel Corp. or its subsidiaries in the United States and other countries.

**Non-isolated type ACDC Controller ICs**

Surface Mount SOP Packages Built-in 650V FET														
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency reduction function	Max Duty (%)	ON Resistance (Ω)	OCP Current (A)	Dynamic Over Current Protection (A)	Start-up Current (mA)	Package			
BM2P109TF	10.0	650	PWM	100	✓	75	9.5	0.45	1.4	3	SOP8			
BM2P104QF					-						4.0	0.80	1.6	SOP8
BM2P129TF	12.0				✓						9.5	0.45	1.4	SOP8
BM2P139TF					✓						4.5	0.45	1.4	SOP8
BM2P135TF	13.0				-						4.0	0.80	1.6	SOP8
BM2P134QF					-						4.0	0.80	1.6	SOP8
BM2P159PF	14.2				-						0.30	0.95	SOP8	
BM2P159T1F	15.0				-						SOP8			
BM2P189TF	18.0				✓						9.5	0.45	1.4	SOP8
BM2P209TF	20.0				-						SOP8			
BM2P249TF	24.8	-	SOP8											

Surface Mount SOP Packages Built-in 800V FET													
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency reduction function	Max Duty (%)	ON Resistance (Ω)	OCP Current (A)	Dynamic Over Current Protection (A)	Start-up Current (mA)	Package		
BM2P107QKF	10.0	800	PWM	100	-	75	7.5	0.80	1.6	3	SOP8		
BM2P137TKF	13.0				✓						0.45	1.4	SOP8
BM2P137QKF					-						0.80	1.6	SOP8

High Heat Dissipation DIP Packages Built-in 650V FET																								
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	OCP Current (A)	Dynamic Over Current Protection (A)	Start-up Current (mA)	Package													
<b>New</b> BM2P101W-Z	10.0	650	PWM	65	✓	40	1.5	1.46	2.55	3	DIP7K													
BM2P101X-Z								2.00	3.5		DIP7K													
BM2P104Q-Z								0.80	1.6		DIP7K													
<b>New</b> BM2P121W-Z	12.0			65	✓	40	1.5	1.5	1.46		2.55	DIP7K												
BM2P121X-Z									2.00		3.5	DIP7K												
BM2P121XH-Z*									2.00		3.5	DIP7K												
<b>New</b> BM2P131W-Z	13.0			100	-	75	4.0	4.0	1.46		2.55	DIP7K												
BM2P131X-Z									2.00		3.5	DIP7K												
BM2P134Q-Z									0.80		1.6	DIP7K												
<b>New</b> BM2P141W-Z	14.0			65	✓	40	1.5	1.5	1.46		2.55	DIP7K												
BM2P141X-Z									2.00		3.5	DIP7K												
<b>New</b> BM2P151W-Z	15.0								65		✓	40	1.5	1.5	1.46	2.55	DIP7K							
BM2P151X-Z		2.00	3.5							DIP7K														
BM2P151S-Z		2.30	4.025							DIP7K														
BM2P161W-Z	16.8	65	✓						40	1.9	1.9	1.46	4.015	DIP7K										
BM2P161X-Z												2.00	3.5	DIP7K										
<b>New</b> BM2P181W-Z	18.0											65	✓	40	1.5	1.5	1.46	2.55	DIP7K					
BM2P181X-Z																	2.00	3.5	DIP7K					
<b>New</b> BM2P201W-Z	20.0																65	✓	40	1.5	1.5	1.46	2.55	DIP7K
BM2P201X-Z																						2.00	3.5	DIP7K
<b>New</b> BM2P241W-Z	24.8																					65	✓	40
BM2P241X-Z				2.00	3.5	DIP7K																		
BM2P249Q-Z				9.5	0.80	2.2	DIP7K																	

\*TSD temperature change

High Heat Dissipation DIP Packages Built-in 800V FET											
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	OCP Current (A)	Dynamic Over Current Protection (A)	Start-up Current (mA)	Package
BM2P107QK-Z	10.0	800	PWM	100	-	75	7.5	0.80	1.6	3	DIP7K
BM2P137QK-Z	13.0										DIP7K

## Isolated and Non-isolated Type ACDC Converter

Surface Mount SOP Packages Built-in 730V FET																				
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (V)	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package				
<b>New</b> BM2P064EF	8.9 to 26.0	730	PWM	65	-	75	3.0	4.0	1.05	0.4	Extrenal	3.0	✓	-	Auto Restart	SOP8				
<b>New</b> BM2P104EF				100												✓	0.3	SOP8		
<b>New</b> BM2P134EF				130												0.4	SOP8			
BM2P0363F	25			-	0.7	0.4	15	-	-	-		SOP8								
<b>New</b> BM2P060MF-Z	11 to 60			65	✓	75	-	75	3.0	2.0		-	0.4	Extrenal	3.0	-	-	Auto Restart	SOP20A	
<b>New</b> BM2P061MF-Z																			1.0	12.0
<b>New</b> BM2P063MF-Z		3.0	4.0								✓								✓	SOP20A

Surface Mount SOP Packages Built-in 800V FET																
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (V)	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package
BM2P0363KF	8.9 to 26.0	800	PWM	25	-	75	3.0	-	0.7	0.4	Extrenal	3.0	-	-	Auto Restart	SOP8
BM2P074KF	10.2 to 26.0			65	✓	6.7	2.0	-	SOP8							

High Heat Dissipation DIP Packages Built-in 650V FET																
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (V)	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package
BM2P0391	8.9 to 26.0	650	PWM	100	✓	75	2.4	5.2	-	0.4	Extrenal	6	✓ (adjustable)	-	Auto Restart	DIP7K

High Heat Dissipation DIP Packages Built-in 730V FET																													
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (V)	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package													
<b>New</b> BM2P061E-Z	8.9 to 26.0	730	PWM	65	✓	75	0.955	12.0	1.0	0.4	Extrenal	5.5	✓ (adjustable)	Auto Restart	Auto Restart	DIP7AK													
BM2P061H-Z	10.9 to 30.0															Latch	DIP7AK												
BM2P0151-Z	8.9 to 26.0															Latch	DIP7K												
BM2P0161-Z																DIP7K													
BM2P0361-Z																DIP7K													
BM2P0362-Z																DIP7K													
BM2P064E-Z																DIP7AK													
BM2P101E-Z																DIP7AK													
<b>New</b> BM2P101H-Z	10.9 to 30.0															100	100	✓	75	0.955	12.0	1.0	0.3	Extrenal	5.5	✓ (adjustable)	Auto Restart	Auto Restart	DIP7AK
BM2P104E-Z	8.9 to 26.0															DIP7AK													
BM2P131E-Z	10.9 to 30.0															DIP7AK													
<b>New</b> BM2P131H-Z	10.9 to 30.0															130													DIP7AK
BM2P134E-Z	8.9 to 26.0															DIP7AK													
BM2P134E-Z	8.9 to 26.0															DIP7AK													

High Heat Dissipation DIP Packages Built-in 800V FET																									
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package									
<b>New</b> BM2P0161K-Z	8.9 to 26.0	800	PWM	65	✓	75	1.6	9.0	-	0.4V	Extrenal	3.0	-	-	Auto Restart	DIP7K									
BM2P0361K-Z																DIP7K									
BM2P061EK-LBZ																DIP7AK									
BM2P061FK-LBZ																DIP7AK									
<b>New</b> BM2P061HK-LBZ																10.9 to 30.0	100	1.6	20.0	1V	0.4V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P063EK-LBZ																10.9 to 30.0	100	3.5	4.8	1.05V	0.3V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
BM2P101EK-LBZ																10.9 to 30.0	100	1.6	20.0	1V	0.3V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
BM2P101FK-LBZ																10.9 to 30.0	100	3.5	4.8	1.05V	0.4V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P101HK-LBZ																10.9 to 26.0	130	1.6	9.0	1V	0.3V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P103EK-LBZ																10.9 to 26.0	130	3.5	4.8	1.05V	0.4V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P131FK-LBZ																10.9 to 30.0	100	1.6	9.0	1V	0.3V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P131HK-LBZ																10.9 to 26.0	100	3.5	4.8	1.05V	0.4V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
<b>New</b> BM2P133EK-LBZ																10.9 to 26.0	100	3.5	4.8	1.05V	0.4V	5.5	✓ (adjustable)	Auto Restart	DIP7AK
BM2P26CK-Z																11.9 to 25.5	100	6.0	3.0	Current Limiter x2A	0.13A	Built-in	✓ (fixed)	-	Latch

High Power TO220 Package Built-in 650V FET																
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (A)	OCP Current (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package
BM2P0163T-Z	8.9 to 26.0	650	PWM	65	✓	75	1.4	10.4	-	0.4	Extrenal	5.0	-	-	Auto Restart	TO220-7M

## Isolated Type ACDC Converter ICs

Built-in FET ACDC Converter ICs

Surface Mount SOP Packages Built-in 650V FET																		
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (A)	Overcurrent Limiter (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package		
BM2P051F	8.9 to 26.0	650	PWM	65	✓	75	4.0	2.6	-	0.4	Extrenal	3.0	✓ (adjustable)	Auto Restart	Latch	SOP8		
BM2P052F															Auto Restart	SOP8		
BM2P053F															-	-	Latch	SOP8
BM2P054F															Auto Restart	SOP8		
BM2P091F															✓ (adjustable)	Auto Restart	Latch	SOP8
BM2P092F															Auto Restart	SOP8		
BM2P093F															-	-	Latch	SOP8
BM2P094F															Auto Restart	SOP8		
BM2P095F															-	-	Latch	SOP8
BM2PA96F															Auto Restart	SOP8		

High Heat Dissipation DIP Packages Built-in 650V FET																		
Part No.	Output Voltage (V)	MOSFET V <sub>DS</sub> (Max) (V)	Control Method	Switching Frequency (kHz)	Frequency Reduction Mode	Max Duty (%)	ON Resistance (Ω)	Peak Current (A)	Dynamic Over Current Protection (A)	Overcurrent Limiter (V)	Current Sense Resistor	Start-up Current (mA)	Brown Out	Brown Out OVP Protection	V <sub>CC</sub> OVP	Package		
BM2P011	8.9 to 26.0	650	PWM	65	✓	75	1.4	10.4	-	0.4	Extrenal	3	✓ (adjustable)	Auto Restart	Latch	DIP7K		
BM2P012															Auto Restart	DIP7K		
BM2P013															-	-	Latch	DIP7K
BM2P014															Auto Restart	DIP7K		
BM2P031															✓ (adjustable)	Auto Restart	Latch	DIP7K
BM2P032															Auto Restart	DIP7K		
BM2P033															-	-	Latch	DIP7K
BM2P034															Auto Restart	DIP7K		
BM2P051															✓ (adjustable)	Auto Restart	Latch	DIP7K
BM2P052															Auto Restart	DIP7K		
BM2P053							-	-	Latch	DIP7K								
BM2P054							Auto Restart	DIP7K										
BM2P091							✓ (adjustable)	Auto Restart	Latch	DIP7K								
BM2P092							Auto Restart	DIP7K										
BM2P093							-	-	Latch	DIP7K								
BM2P094							Auto Restart	DIP7K										

Integrated SiC MOSFET ACDC Converter ICs

High Power TO220 Packages Built-in 1,700V SiC MOSFET												
Part No.	Output Voltage (V)	SiC MOSFET V <sub>OS</sub> (Max) (V)	Control Method	Maximum Frequency (kHz)	ON Resistance (Ω)	Dynamic Over Current Protection (A)	OCP Exchange Function	V <sub>CC</sub> OVP	BR UVLO	FB OLP Protection	ZT OVP Protection	Package
BM2SCQ121T-LBZ	15 to 27.5	1,700	QR	120	1.12	-	✓	Latch	-	Auto Restart	Latch	TO220-6M
BM2SCQ122T-LBZ										Latch		TO220-6M
BM2SCQ123T-LBZ										Auto Restart		TO220-6M
BM2SCQ124T-LBZ										Latch		TO220-6M
High Power TOTO263 Packages Built-in 1,700V SiC MOSFET												
Part No.	Output Voltage (V)	SiC MOSFET V <sub>OS</sub> (Max) (V)	Control Method	Maximum Frequency (kHz)	ON Resistance (Ω)	Dynamic Over Current Protection (A)	OCP Exchange Function	V <sub>CC</sub> OVP	BR UVLO	FB OLP Protection	ZT OVP Protection	Package
<b>New</b> BM2SC121FP2-LBZ	15 to 27.5	1,700	QR	120	1.12	-	✓	Latch	-	Auto Restart	Latch	TO263-7L
<b>New</b> BM2SC122FP2-LBZ										Latch		TO263-7L
<b>New</b> BM2SC123FP2-LBZ										Auto Restart		TO263-7L
<b>New</b> BM2SC124FP2-LBZ										Latch		TO263-7L

Isolated Type FET external ACDC Controller ICs

PWM Control Types													
Part No.	Output Voltage (V)	Control Method	Switching Frequency (kHz)	START-UP Circuit	Frequency Reduction Mode	Max Duty (%)	AC Voltage Correction	V <sub>CC</sub> Recharge	Start-up Current (mA)	BR UVLO	V <sub>CC</sub> OVP	FBOLP	Package
BM1P061FJ	8.9 to 26.0	PWM	65	✓	✓	75	✓	-	3.0	-	-	Auto Restart	Auto Restart
BM1P062FJ												Latch	
BM1P065FJ												Auto Restart	
BM1P066FJ												Latch	
BM1P067FJ												Auto Restart	
BM1P068FJ												Latch	
BM1P101FJ												Auto Restart	
BM1P102FJ												Latch	
BM1P105FJ												Auto Restart	
BM1P107FJ												Latch	
BM1P10CFJ	9.3 to 55.0						✓	5.5	✓	-		SOP-J7S	
BD7672BG	8.5 to 25.0		65	-	-		-	-	-	-	Latch		SSOP6
BD7673AG											Latch		SSOP6
BD7679G												Auto Restart	
QR Control Types													
Part No.	Output Voltage (V)	Control Method	START-UP Circuit	Start-up Current (mA)	Maximum Frequency (kHz)	Frequency Reduction Mode	AC Voltage Correction	FB OLP Protection	V <sub>CC</sub> OVP	ZT OVP	Package		
BM1Q002FJ	8.9 to 26.0	QR	✓	3.0	120	✓	✓	Auto Restart	Latch	Latch	SOP-J8		
BM1Q011FJ									Auto Restart	-	SOP-J7S		
BM1Q021FJ									Auto Restart	Auto Restart	SOP-J8		
BM1Q104FJ									14.0 to 30.0	-	Latch	SOP-J8	
QR Control Types For SiC Drive													
Part No.	Output Voltage (V)	Control Method	START-UP Circuit	Start-up Current (mA)	Maximum Frequency (kHz)	Frequency Reduction Mode	AC Voltage Correction	FB OLP Protection	V <sub>CC</sub> OVP	ZT OVP	Package		
BD7682FJ-LB	15.0 to 27.5	QR	-	-	120	✓	✓	Auto Restart	Latch	Latch	SOP-J8		
BD7683FJ-LB								Latch			SOP-J8		
BD7684FJ-LB								Auto Restart			Auto Restart	SOP-J8	
BD7685FJ-LB								Latch			Auto Restart	SOP-J8	
QR Control Types+PFC Built-in Types													
Part No.	Output Voltage (V)	Control Method	START-UP Circuit	Start-up Current (mA)	QR Maximum Frequency (kHz)	PFC Maximum Frequency (kHz)	QR Frequency Reduction	PFC Frequency Reduction	PFC Output Voltage Switching	BR UVLO	V <sub>CC</sub> OVP	ZT OVP	Package
BM1C101F	8.9 to 26.0	PFC+QR	✓	6.5	120	400	✓	✓	✓	✓	Auto Restart	Latch	SOP18
BM1C102F									-				SOP18

BCM Type PFC Controller ICs

Singles PFC											
Part No.	Output Voltage (V)	Control Method	START-UP Circuit	Zero Detection Method	OVP Detection	PFC Maximum Frequency (kHz)	Over Shoot Reduction Function	Brown Out	V <sub>CC</sub> Discharge	Package	
BD7690FJ	10.0 to 26.0	BCM PFC	-	Auxiliary Winding	Single	220	-	-	-	SOP-J8	
BD7691FJ				Resistance	Double						SOP-J8
BD7692FJ				Auxiliary Winding	Single						450
<b>New</b> BD7693FJ	10.0 to 38.0						✓	-	-	SOP-J8	
<b>New</b> BD7694FJ										✓	✓

## AC Voltage Zero Cross Detection ICs

AC Voltage Zero Cross Detection ICs											
Part No.	Output Voltage (V)	Maximum AC Input Voltage (V)	DC Voltage Monitor Function	Zero Cross Delay Time (μs)	Output Waveform	Stand by Current (μA)	Quiescent Current (μ)	Output Type	Protection Circuit	Operating Temperature (°C)	Package
<b>New</b> BM1Z012FJ	10 to 28	600	-	Variable	Pulse	50	160	Nch Open Drain	TSD/UVLO	-40 to +105	SOP-J7S
BM1Z001FJ				300 to 500							SOP-J7S
BM1Z002FJ				Variable							SOP-J7S
BM1Z003FJ			✓	300 to 500	Edge						SOP-J7S
BM1Z101FJ				300 to 500	Pulse						SOP-J11
BM1Z102FJ				Variable	Edge						SOP-J11
BM1Z103FJ				Variable	Edge						SOP-J11

## Secondary Side Synchronous Rectification ICs

Secondary Side Synchronous Rectification ICs									
Part No.	Output Voltage (V)	Control Method	Shunt Regulator Accuracy (%)	Drain Terminal Maximum Voltage (V)	Compulsion OFF Time (μs)	V <sub>CC</sub> OVP	Auto Sleep Function	CCM Mode	Package
BM1R00146F	2.7 to 32.0	SR	±0.5	120	1.3	Auto Restart	✓	✓	SOP8
BM1R00147F					2.0				SOP8
BM1R00148F					3.0				SOP8
BM1R00149F					3.6				SOP8
BM1R00150F					4.6				SOP8
BM1R00178F					3.0				SOP8
BD87007FJ					3.85				SOP-J8
BD85506F	5.0 to 32.0	SR for LLC	±1.0	-	-	✓	-	SOP14	

## Isolated DCDC Converter ICs

Isolated DCDC Converter ICs													
Part No.	Output Power (W)	Input Voltage Maximum Rating (V)	Switch Current Limit (A)	Input Voltage (V)	Switching Frequency (kHz)	Control Method	Features					Package	
							Enable	Soft Start	Light-Load Efficiency	UVLO	Over Current Protection		Thermal Protection
BD7F100EFJ-LB	1W at V <sub>IN</sub> 5.0V 5W at V <sub>IN</sub> 24V	45	1.25	3.0 to 40.0	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8
BD7F100HFN-LB													HSOP8
BD7F200EFJ-LB	5W at V <sub>IN</sub> 12V 10W at V <sub>IN</sub> 24V	45	2.75	8.0 to 40.0									HTSOP-J8
BD7F200HFN-LB													HSOP8
☆BD7J201HFN-LB	5W at V <sub>IN</sub> 24V 10W at V <sub>IN</sub> 48V	100	1.8	8.0 to 80.0									HSOP8
<b>New</b> BD7J201EFJ-LB													HTSOP-J8
<b>New</b> BD7J200EFJ-LB	5W at V <sub>IN</sub> 24V 10W at V <sub>IN</sub> 48V	100	1.75	8.0 to 80.0									HTSOP-J8
<b>New</b> BD7J200HFN-LB					HSOP8								

☆: Under Development

# Gate Drivers

## Isolated Gate Drivers

Isolated Gate Drivers											
Part No.	Input-side Supply Voltage (V)	Output-side Positive Supply Voltage (V)	Output-side Negative Supply Voltage (V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width (ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package	Automotive Grade AEC-Q100
BM6101FV-C	4.5 to 5.5	14 to 24	-12 to 0	2,500	350	180	3	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/DESAT/Soft turn-off function for SCP	SSOP-B20W	YES
BM6102FV-C	4.5 to 5.5	14 to 20	-	2,500	200	100	3	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/DESAT/Soft turn-off function for SCP	SSOP-B20W	YES
BM6104FV-C	4.5 to 5.5	10 to 24	-12 to 0	2,500	150	90	3	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/DESAT/Soft turn-off function for SCP	SSOP-B20W	YES
BM6109FV-C	4.5 to 5.5	14 to 18	-	2,500	700	600	4.5	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/Soft turn-off function for SCP	SSOP-B28W	YES
BM6112FV-C	4.5 to 5.5	14 to 20	-12 to 0	3,750	150	90	20	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/DESAT/Soft turn-off function for SCP	SSOP-B28W	YES
BM61M22BFJ-C	4.5 to 5.5	9 to 24	-	2,500	60	60	2	-40 to +125	UVLO	SOP-JW8	YES
BM61M41RFV-C	4.5 to 5.5	9 to 24	-	3,750	65	60	4	-40 to +125	Active miller clamping/UVLO	SSOP-B10W	YES
BM61S40RFV-C	4.5 to 5.5	16 to 20	-	3,750	65	60	4	-40 to +125	Active miller clamping/UVLO/OVP	SSOP-B10W	YES
BM61S41RFV-C	4.5 to 5.5	16 to 24	-	3,750	65	60	4	-40 to +125	Active miller clamping/UVLO	SSOP-B10W	YES

Isolated Gate Drivers (For Industrial Equipment)											
Part No.	Input-side Supply Voltage (V)	Output-side Positive Supply Voltage (V)	Output-side Negative Supply Voltage (V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width (ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package	
BM6105AFW-LBZ	4.5 to 5.5	13.3 to 20.0	-12 to 0	2,500	120	60	3	-40 to +105	Active miller clamping/Fault signal output/Ready output/UVLO/DESAT	SOP16WM	
BM6108FV-LB	4.5 to 5.5	10 to 24	-12 to 0	2,500	150	90	3	-40 to +105	Active miller clamping/Fault signal output/UVLO/SCP/DESAT/Soft turn-off function for SCP	SSOP-B20W	

Isolated Gate Drivers with Flyback Controller											
Part No.	Input-side Supply Voltage (V)	Output-side Positive Supply Voltage (V)	Output-side Negative Supply Voltage (V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width (ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package	Automotive Grade AEC-Q100
BM60052AFV-C	4 to 32	10 to 20	-12 to 0	2,500	120	90	3	-40 to +125	Active miller clamping/Fault signal output/UVLO/DESAT/Ready output/Soft turn-off function for DESAT	SSOP-B28W	YES
BM60054AFV-C	4 to 32	10 to 20	-12 to 0	2,500	120	90	3	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/Ready output/Soft turn-off function for SCP	SSOP-B28W	YES
BM60055FV-C	4.5 to 30.0	9 to 24	-	2,500	250	170	5	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/Soft turn-off function for SCP/SCP/2 level turn off	SSOP-B28W	YES
BM60060FV-C	8 to 24	13.5 to 24.0	-	2,500	210	90	9	-40 to +125	Active miller clamping/Fault signal output/UVLO/SCP/Soft turn-off function for SCP/Gate Resistance Selecting	SSOP-B28W	YES
BM60059FV-C	4.5 to 24	14 to 24	-	2,500	450	400	10	-	Active miller clamping/Fault signal output/UVLO/SCP/Soft turn-off function for SCP/Gate Resistance Selecting	SSOP-B28W	YES

Others

IGBT/MOSFET Low-side Gate Driver											
Part No	Input-side Supply Voltage (V)	I/O Delay Time (ns)	Output Current (A)	ch	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100				
BD2310G	4.5 to 18	15	4/-4	1	-40 to +125	SSOP5	-				

IGBT/MOSFET High-side Low-side Gate Drivers											
Part No	Input-side Supply Voltage (V)	High-side Floating Supply Voltage (V)	I/O Delay Time (ns)	minimum Output Current (A)	Dead Time (ns)	ch	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100		
<b>New</b> BD2320EFJ-LA	7.5 to 14.5	100	27/29	3.5/-4.5*	-	2	-40 to +125	HTSOP-J8	-		
BM60212FV-C	10 to 24	1,200	75	3/-3	-	2	-40 to +125	SSOP-B20W	YES		
BM60213FV-C	10 to 24	1,200	75	3/-3	-	2	-40 to +125	SSOP-B20W	YES		

\*BD2320EFJ is a standard value.

(LAPIS Technology products)

Non-insulated Gate Driver for Battery Management System (BMS)									
Part No.	Supply Voltage (V)	Gate Driving Voltage (V) Min	Turn on Time (µs) Max	Turn off Time (µs) Max	Operating temperature (°C)	Package	Halogen Free Support	Automotive Grade Available AEC-Q100	
☆ML5810	+6.5 to +64.0	10	350	70	-40 to +105	P-TSSOP20-0225-0.65-TK6	✓	YES	
ML5810A						P-TSSOP20-0225-0.65-TK6		-	

☆: Under Development

# Temperature Monitor

Isolated Temperature Monitor											
Part No.	Supply Voltage 1 (V)	Supply Voltage 2 (V)	Isolation Voltage (Vrms)	Circuit Current 1 (mA)	Circuit Current 2 (mA)	Input Voltage (V)	Output Current Accuracy (%)	Output Duty Accuracy (%)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BM66002FV-C	9 to 24	3.0 to 5.5	2,500	3.75	0.2	1.4 to 4.0	±2.0	±2.0	-40 to +125	SSOP-B20W	YES

# Power Management Switch

1 Channel Compact High Side Switch ICs											
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD6538G	2.7 to 5.5	150	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2220G	2.7 to 5.5	160	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2221G	2.7 to 5.5	160	L Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2224G	2.7 to 5.5	150	H Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2225G	2.7 to 5.5	150	L Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2226G	2.7 to 5.5	150	H Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5
BD2227G	2.7 to 5.5	150	L Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5
BD2232G	2.7 to 5.5	100	H Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2233G	2.7 to 5.5	100	L Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2240G	2.7 to 5.5	110	H Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5
BD2241G	2.7 to 5.5	110	L Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5
BD2246G	2.7 to 5.5	110	H Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5
BD2247G	2.7 to 5.5	110	L Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5
BD2248G	2.7 to 5.5	110	H Active	0.2	0.2/0.3/0.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2222G*	2.8 to 5.5	90	H Active	1.5	0.2 to 1.7 (adjustable)	0.6	Recovery	Recovery	7	-	SSOP6
BD2242G*	2.8 to 5.5	90	H Active	1.5	0.2 to 1.7 (adjustable)	0.6	Recovery	Recovery	7	60	SSOP6
BD2243G*	2.8 to 5.5	90	L Active	1.5	0.2 to 1.7 (adjustable)	0.6	Recovery	Recovery	7	60	SSOP6

\*UL approved File No. E243261

## Automotive 1 Channel Compact High Side Switch ICs

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD22621G-M	2.7 to 5.5	120	H Active	0.15	0.18/0.30/0.42	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2262G-M	2.7 to 5.5	120	H Active	0.2	0.2/0.3/0.4	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD22641G-M	2.7 to 5.5	120	H Active	0.5	0.57/0.76/0.96	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2264G-M	2.7 to 5.5	120	H Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2265G-M	2.7 to 5.5	120	L Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2266G-M	2.7 to 5.5	120	H Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2267G-M	2.7 to 5.5	120	L Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2268G-M	2.7 to 5.5	110	H Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2269G-M	2.7 to 5.5	110	L Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5	FSs	YES
BD2244G-M*2	2.8 to 5.5	100	H Active	1.5	0.2 to 1.7 (adjustable)	0.6	Recovery	Recovery	7	60	SSOP6	FSs	YES
BD2245G-M*2	2.8 to 5.5	100	L Active	1.5	0.2 to 1.7 (adjustable)	0.6	Recovery	Recovery	7	60	SSOP6	FSs	YES

## 1 Channel Compact High Side Switch ICs (Industrial Equipment)

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD6538G-LB	2.7 to 5.5	150	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2220G-LB	2.7 to 5.5	160	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2221G-LB	2.7 to 5.5	160	L Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2224G-LB	2.7 to 5.5	150	H Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2225G-LB	2.7 to 5.5	150	L Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2226G-LB	2.7 to 5.5	150	H Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5
BD2227G-LB	2.7 to 5.5	150	L Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5

## 1 Channel High Side Switch ICs

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD2051AFJ	2.7 to 5.5	80	H Active	0.5	0.7/1.0/1.6	1.2	Recovery	Recovery	1.3	-	SOP-J8
BD82001FVJ	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82000FVJ	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD2065AFJ	2.7 to 5.5	80	H Active	1.0	1.1/1.5/2.3	1.2	Recovery	Recovery	2.5	-	SOP-J8
BD82065FVJ	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82061FVJ	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82020FVJ*2	2.8 to 5.5	90	H Active	1.1	1.1/1.5/2.0	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82021FVJ*2	2.8 to 5.5	90	L Active	1.1	1.1/1.5/2.0	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82022FVJ*2	2.8 to 5.5	90	H Active	1.5	1.5/2.0/2.6	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82023FVJ*2	2.8 to 5.5	90	L Active	1.5	1.5/2.0/2.6	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82024FVJ*2	2.8 to 5.5	90	H Active	2.1	2.1/2.5/3.3	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82025FVJ*2	2.8 to 5.5	90	L Active	2.1	2.1/2.5/3.3	0.4	Recovery	Recovery	12	75	TSSOP-B8J
BD82028FVJ*2	4.5 to 5.5	72	H Active	0.5	0.6/1.0/1.2	0.3	Recovery	Recovery	13	75	TSSOP-B8J
BD82029FVJ*2	4.5 to 5.5	72	L Active	0.5	0.6/1.0/1.2	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82030FVJ*2	4.5 to 5.5	72	H Active	1.0	1.05/1.5/1.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82031FVJ*2	4.5 to 5.5	72	L Active	1.0	1.05/1.5/1.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82032FVJ*2	4.5 to 5.5	72	H Active	1.5	1.55/2.0/2.3	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82033FVJ*2	4.5 to 5.5	72	L Active	1.5	1.55/2.0/2.3	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82034FVJ*2	4.5 to 5.5	72	H Active	2.0	2.05/2.5/2.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82035FVJ*2	4.5 to 5.5	72	L Active	2.0	2.05/2.5/2.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J
BD82038FVJ*2	2.7 to 5.5	72	H Active	0.5	0.60/1.00/1.20	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82039FVJ*2	2.7 to 5.5	72	L Active	0.5	0.60/1.00/1.20	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82040FVJ*2	2.7 to 5.5	72	H Active	1.0	1.05/1.50/1.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82041FVJ*2	2.7 to 5.5	72	L Active	1.0	1.05/1.50/1.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82042FVJ*2	2.7 to 5.5	72	H Active	1.5	1.55/2.00/2.30	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82043FVJ*2	2.7 to 5.5	72	L Active	1.5	1.55/2.00/2.30	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82044FVJ*2	2.7 to 5.5	72	H Active	2.0	2.05/2.50/2.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82045FVJ*2	2.7 to 5.5	72	L Active	2.0	2.05/2.50/2.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82046FVJ*2	2.7 to 5.5	72	H Active	2.5	2.70/3.20/3.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J
BD82047FVJ*2	2.7 to 5.5	72	L Active	2.5	2.70/3.20/3.80	0.5	Recovery	Recovery	7	55	TSSOP-B8J

## Automotive 1 Channel High Side Switch ICs

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD82004FVJ-M	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J	FSs	YES
BD82005FVJ-M	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J	FSs	YES
BD82006FVJ-M	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J	FSs	YES
BD82007FVJ-M	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J	FSs	YES

## 1 Channel High Side Switch ICs (Industrial Equipment)

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD82001FVJ-LB	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82000FVJ-LB	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82065FVJ-LB	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82061FVJ-LB	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

\*2 UL approved File No. E243261

2 Channel High Side Switch ICs													
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OC	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package		
BD6516F*2	3.0 to 5.5	110	H Active	1.1	1.2/1.65/2.5	1.3	Recovery	Recovery	1	—	SOP8		
BD2066FJ*2	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8		
BD2062FJ*2	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8		
Automotive 2 Channel High Side Switch ICs													
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OC	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD2068FJ-M	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	FSs	YES
BD2069FJ-M	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	FSs	YES
2 Channel High Side Switch ICs (Industrial Equipment)													
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	OC	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package		
BD2066FJ-LB*2	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8		
BD2062FJ-LB*2	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8		
Load Switch ICs													
Part No.	Input Voltage (V)	Current Consumption (μA)	ON Resistance (mΩ)	Number of Output channel (ch)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	Thermal Shut Down	Discharge Resistance (Ω)	Package (mm)		
BD6528HFV	V <sub>DD</sub> =2.7 to 4.5/ V <sub>IN</sub> =0 to 2.7	20	110	1	H Active	0.5	—	0.5	—	70	HVSOF6		
BD6529GUL	V <sub>DD</sub> =2.7 to 4.5/ V <sub>IN</sub> =0 to 2.7	20	100	1	H Active	0.5	—	0.5	—	70	VCSP50L1 1.0x1.5, H=0.55		
BD2200GUL	2.7 to 5.5	20	100	1	H Active	0.5	—	1.0	—	70	VCSP50L1 1.0x1.5, H=0.55		
BD2201GUL	2.7 to 5.5	20	100	1	H Active	1.0	—	1.0	—	70	VCSP50L1 1.0x1.5, H=0.55		
BD2204GUL	V <sub>IN1</sub> =2.7 to 4.5/ V <sub>IN2</sub> =1.2 to 2.4	30	120	1	H Active	0.5	—	0.06	Recovery	80	VCSP50L1 1.0x1.5, H=0.55		
BD2202G	2.7 to 3.6	70	150	1	H Active	0.2	0.25/—/1.0	1.2	Recovery	—	SSOP5		
BD2206G	2.7 to 3.6	70	150	1	H Active	0.5	0.8/—/1.6	1.2	Recovery	—	SSOP5		
BD6520F	3.0 to 5.5	110	50	1	H Active	2.0	—	2.0	Latch	350	SOP8		
BD6522F	3.0 to 5.5	110	50	1	H Active	2.0	—	1.0	Latch	350	SOP8		
Load Switch ICs (Industrial Equipment)													
Part No.	Input Voltage (V)	Current Consumption (μA)	ON Resistance (mΩ)	Number of Output channel (ch)	Control Input Logic	Output Current (A)	Over Current Detection (A) Min/Typ/Max	Output Turn on Time (ms)	Thermal Shut Down	Discharge Resistance (Ω)	Package (mm)		
BD2202G-LB	2.7 to 3.6	70	150	1	H Active	0.2	0.25/—/1.0	1.2	Recovery	—	SSOP5		
BD2206G-LB	2.7 to 3.6	70	150	1	H Active	0.5	0.8/—/1.6	1.2	Recovery	—	SSOP5		
1 Channel Compact High Side Load Switch ICs													
BUS1DJC0GWZ	1.1 to 5.0	0.35	63	1	H Active	2.0	—	0.012	—	80	UCSP30L1 0.8x0.8, H=0.35		
BUS1DJC3GWZ	1.1 to 5.0	0.35	63	1	H Active	2.0	—	0.19	—	80	UCSP30L1 0.8x0.8, H=0.35		
34V Pressure 1ch Compact High Side Load Switch ICs													
<b>New</b> BV1HAL45EFJ	8 to 32	0.5	45	1	H Active	3.4 to 9.9 Adjustable	17.4 to 34.6	11.79 to 64.05 Adjustable	Recovery	—	HTSOP-J8		
BV1HAL85EFJ	8 to 32	0.5	85	1	H Active	2.5 to 6.5 Adjustable	8.7 to 17.3	5.45 to 29.60 Adjustable	Recovery	—	HTSOP-J8		
BV1HALA5EFJ	8 to 32	0.5	150	1	H Active	0.75 to 2.1 Adjustable	5.7 to 11.3	5.45 to 29.60 Adjustable	Recovery	—	HTSOP-J8		
2 Channel Compact High Side Load Switch IC													
BDS2EJAAGUL	3.0 to 3.6	0.2	45	2	H Active	1.0	1.0	— (Soft Start)	Recovery	30	VCSP50L1 1.95x1.0, H=0.55		
Controller IC for High Side NMOSFET													
Part No.	Input Voltage (V)	Current Consumption (μA)	Output Voltage (V)		Number of Output channel (ch)	Control Input Logic	Output Turn on Time (ms)	Discharge Resistance (Ω)	Package				
			V <sub>CC</sub> =3.3V	V <sub>CC</sub> =5.0V									
BD2270HFV	2.7 to 5.5	50	9.5	13.5	1	H Active	0.13	200	HVSOF5				
Controller IC for High Side NMOSFET (Industrial Equipment)													
BD2270HFV-LB	2.7 to 5.5	50	9.5	13.5	1	H Active	0.13	200	HVSOF5				

## Wireless Power

(LAPIS Technology products)

Power Receiver LSI (13.56MHz Wireless Charge)												
Part No.	Function Overview	Supply Voltage (V)	Frequency Band (MHz)	Data Flash (Byte)	Function	I/F	ADC (method)	Clock Source	Operating Temperature (°C)	Package	Halogen Free Support*1	
ML7630	Power Receiving	Generated from magnetic field	13.56	496Byte	200mW Output Output Voltage setting	NFC Forum Type3 Tag I <sup>2</sup> C slave x1ch	10bit (SA type) x3ch	Generated from magnetic field	-40 to +85	S-UFLGA34-2.59x2.59-0.40-W (WCSP34)	✓	
<b>New</b> ML7660	Power Receiving	Generated from magnetic field	13.56	496Byte	1W Output	NFC Forum Type3 Tag I <sup>2</sup> C slave x1ch SPI slave x1ch	10bit (SA type) x4ch	Generated from magnetic field	-40 to +85	S-UFLGA30-2.28x2.61-0.40-W (WCSP30) P-WQFN32-0505-0.50-A63	✓	
Power Transmitter LSI (13.56MHz Wireless Charge)												
Part No.	Function Overview	Supply Voltage (V)	Frequency Band (MHz)	Data Flash (Byte)	Function	I/F	ADC (method)	Clock Source	Operating Temperature (°C)	Package	Halogen Free Support*1	
ML7631	Power Transmission	5	13.56	496Byte	Transmission Power Adjust Control	I <sup>2</sup> C slave x1ch	10bit (SA type) x3ch	27.12MHz (Crystal)	-40 to +85	P-WQFN32-0505-0.50-A63	✓	
<b>New</b> ML7661	Power Transmission	5	13.56	496Byte	Transmission Power Adjust Control	I <sup>2</sup> C slave x1ch SPI slave x1ch	10bit (SA type) x6ch	27.12MHz (Crystal)	-40 to +85	P-WQFN40-0606-0.50-63	✓	

\*1 A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.



# Battery Management

## Battery Charger ICs

Part No.	Supply Voltage (V)	ON Resistance (mΩ)	Charge Voltage (V)	Charge Current Accuracy (%)	Switching Frequency (kHz)	Operating Temperature (°C)	Package
<b>New</b> BD71631QWZ	(2.9V:30mA, 4.0V:300mA) to 5.5	—	2.0 to 4.7 (±2%)	±10 (ICHG=100mA to 300mA)	—	-30 to +105	UMMP10LZ1824
BD8664GW	4.1 to 5.5	70	8.3±0.5%	±2	1,000	-30 to +85	UCSP75M2
BD8665GW	4.1 to 5.5	70	8.4±0.5%	±3	1,000	-30 to +85	UCSP75M2
BD8668GW	4.1 to 5.5	70	8.4±0.5%	±3	1,000	-30 to +85	UCSP75M2
BD99950MUV	6.0 to 24.0	—	8.4/12.6±0.5%	±3	600 to 1,200	-10 to +85	VQFN20PV3535
BD99954GW	3.8 to 25.0	—	4.192/8.4/ 12.592/16.8±0.5%	±2 to ±40	600 to 1,200	-30 to +85	UCSP55M3C
BD99954MWV	3.8 to 25.0	—	4.192/8.4/ 12.592/16.8±0.5%	±2 to ±40	600 to 1,200	-30 to +85	UQFN040V5050

## Charge Protection ICs

### Standard Protection type

Part No.	Absolute Maximum Ratings (V)	Over Voltage Detection Level (V)	Under Voltage Detection Level (V)	Over Current Detection Level (A)	Ron (mΩ)	OK/FLGB PIN Logic			Package (mm)
						<UVLO	Normal	>OVLO	
BD6040GUL	+30	6.4±0.2	2.65±0.12	Min 1.2	125 (Typ)	H	L	H	VCSP50L1 1.6×1.6, H=Max 0.55
BD6041GUL	+30	5.85±0.15	2.65±0.12	Min 1.2	125 (Typ)	H	L	H	VCSP50L1 1.6×1.6, H=Max 0.55
BD6042GUL	+30	6.2±0.2	2.65±0.12	Min 1.2	125 (Typ)	H	L	H	VCSP50L1 1.6×1.6, H=Max 0.55
BD6044GUL	+36	6.4±0.2	2.65±0.12	Min 1.2	125 (Typ)	H	H	L	VCSP50L1 1.6×1.6, H=Max 0.55
BD6049GUL	+30	6.8±0.17	2.65±0.12	Min 1.2	125 (Typ)	H	H	L	VCSP50L1 1.6×1.6, H=Max 0.55
BD91409GW	+30	6.25±0.15	3.125±0.1	Min 2.0	75 (Typ)	—	—	—	UCSP75M2 2.8×2.8, H=Max 0.85

### Negative Voltage Protection type

BD6046GUL	±30	6.7±0.2	3.6±0.18	Min 1.2	250 (Typ)	H	H	L	VCSP50L2 2.5×2.5, H=Max 0.55
BD6047AGUL	±30	5.85±0.15	3.6±0.18	Min 1.7	125 (Typ)	H	H	L	VCSP50L1 1.95×1.95, H=Max 0.55

Standard Protection type: Charger protection IC provides over voltage protection for charger IC. Built-in circuits include overvoltage lockout, overcurrent limit, undervoltage protection, internal start up delay, and status flag.

Negative Voltage Protection type: Addition to the conventional standard charge protection IC, it prevents the negative voltage happened by the USB reverse insertion without any additional components.

## Cell Balance IC of Power Storage Element Cells

### EDLC Cell Balance IC (4 to 6 series)

Part No.	Absolute Maximum Ratings (V)	Cell Voltage Detection Range VCB (V)	Over-voltage Detection Voltage 1 (V)	Over-voltage Detection Voltage 2 (V)	Shunt SW Ron (Ω)	Function			Package (mm)	ComfySIL™ Functional Safety*1
						EN	OVLO	Stack IC		
BD14000EFV-C	+28	2.4 to 3.1V± (1%) (0.1V/step usable)	VCB+0.15 or 0.25 (OVLOSEL=L or H)	VCB+0.3 or 0.5 (OVLOSEL=L or H)	1 (Typ)	✓	✓	✓	HTSSOP-B30 10.0×7.6, H=Max 1.0	FSs

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

## Coulomb Counter IC

### Coulomb Counter IC

Part No.	Supply Voltage (V)	Gain (V/V)	Resolution (bit)	I/F	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
<b>New</b> BD7220FV-C	4.5 to 5.5	5/25/51	16	SPI	-40 to +125	SSOP-B20 6.5×6.4 (L=1.45)	YES

## Li-ion Battery Monitoring LSI

(LAPIS Technology products)

### Stand-alone type

Part No.	Description	Supply Voltage (V)	Overvoltage Detection Accuracy (Typ) (mV)	Charge/Discharge Control FET driver	Cell Balancing Switch	Current Consumption (Typ) (μA)		Overvoltage/Undervoltage Detection	Charge and Discharge Over-Current Detection	Temperature Detection	Short Circuit Detection	Open Wire Detection	Parameter Change	Operation Temperature (°C)	Package	Halogen Free Support*1
						Operating	Power-down									
<b>New</b> ML5205	5-cells, 2nd protection	+5 to +25	±25	—	—	3	—	Overvoltage detection	—	—	—	✓	Mask option	-20 to +85	P-VSSOP8 -0150-0.65-TK6	✓
ML5206	5-cells, 2nd protection with Autonomous Cell Balancing	—	—	—	Internal (Autonomous)	1	—	Overvoltage detection	—	—	—	—	Mask option	-20 to +85	P-VSSOP8 -0150-0.65-TK6	✓
ML5232	14-cells, 2nd protection	+7 to +80	±20	—	—	2.5	—	Overvoltage detection	—	—	—	—	Mask option	-40 to +105	P-TSSOP20 -0225-0.65-TK6	✓
ML5233	10-cells, cell voltage/current/temperature protection, cascade connection	+5 to +60	±15	NMOS	—	25	0.1	✓	✓	✓	✓	—	Mask option	-40 to +85	P-LQFP32 -0707-0.80-TK6	✓
ML5241	5-cells, 2nd protection	+5 to +25	±25	—	—	1	0.1	Overvoltage detection	—	—	—	—	Mask option	-20 to +85	P-WSON10 -0303-0.50-63	✓
ML5243	5-cells, cell voltage/current/temperature protection	+5 to +25	±25	—	—	6.5	0.1	✓	✓	✓	✓	—	Mask option	-40 to +85	P-TSSOP20 -0225-0.65-TK6	✓
ML5245	13-cells, cell voltage/current/temperature protection, cell voltage monitoring	+7 to +80	±15	NMOS	—	25	—	Overvoltage detection	—	—	—	—	Mask option	-40 to +85	P-SSOP30 -56-0.65-ZK6	✓

### MCU Control type

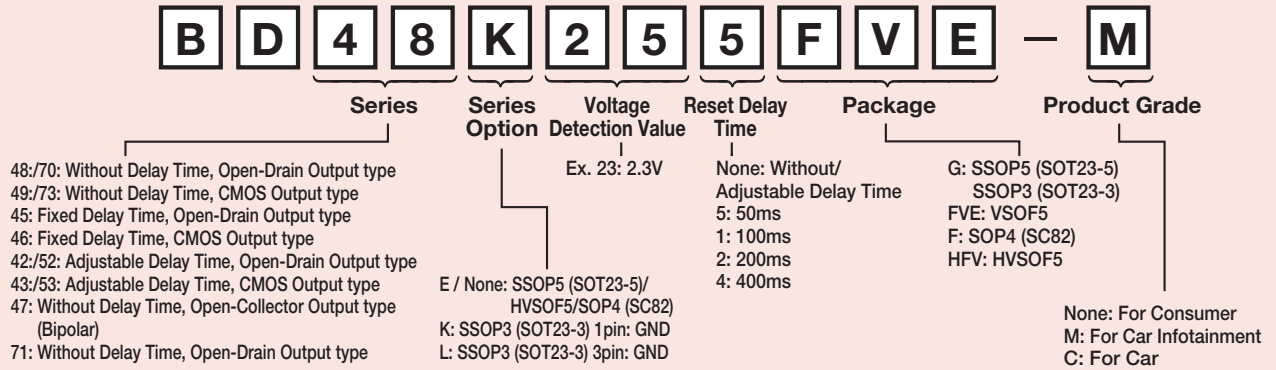
Part No.	Description	Supply Voltage (V)	Cell Voltage Measurement Error (Typ) (mV)	Monitoring Output	Charge/Discharge Control FET driver	Cell Balancing Switch	Current Consumption (Typ) (μA)		Overvoltage/Undervoltage Detection	Charge and Discharge Over-Current Detection	Short Circuit Detection	Parameter Change	Operation Temperature (°C)	Package	Halogen Free Support*1
							Operating	Power-down							
ML5204	5-cells, analog monitoring output	+3.3 to +42.0	±25	cell voltage/ current	—	—	14	—	✓	✓	—	Mask option	-40 to +85	P-TSSOP20 -0225-0.65-TK6	✓
ML5238	16-cells, analog monitoring output	+7 to +80	±20	cell voltage/ current	NMOS	internal	50	—	—	—	✓	Mask option	-40 to +85	P-QFP44 -910-0.80-ZK	✓
ML5236	14-cells, ADC built-in, digital monitoring output	+8 to +64	±15	cell voltage/ current/temperature	High-side NMOS	—	330	0.1	Overvoltage detection	—	—	MCU control	-40 to +85	P-TQFP44 -1010-0.80-ZK6	✓
ML5239	16-cells, ADC built-in, cascade connection, digital monitoring output	+10 to +72	±10	cell voltage/ temperature	—	external	1200	—	—	—	—	MCU control	-40 to +85	P-TQFP64 -1010-0.50-ZK6	✓
ML5248	7-cells, analog monitoring output	+5.0 to +31.5	±20	cell voltage/ current	High-side NMOS	internal	32	—	—	—	—	MCU control	-40 to +85	P-SSOP30 -56-0.65-ZK6	✓

\*1 A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.

**Voltage Detectors (Reset ICs)**

Voltage Detectors (Reset ICs)	P.61	Over Voltage Detectors (Reset ICs)	P.62
Voltage Detectors with Adjustable Delay Time	P.62	Voltage Detectors with Built-in Delay Time	P.62
Voltage Detectors for Automotive	P.63	Power Supply Monitoring IC for Automotive	P.63
Voltage Detectors with Watchdog Timer	P.63	Composite type Voltage Detector (2ch+Comparator)	P.63

**Voltage Detectors How to find part number**



**Voltage Detectors (Reset ICs)**

**Voltage Detectors (Reset ICs)**

**Standard CMOS Voltage Detector ICs**

Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current (μA)		Hysteresis Voltage (V)	“L” Output Current (mA)		Package
							ON	OFF		V <sub>DD</sub> =1.2V	V <sub>DD</sub> =2.4V	
<b>BD48ExxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open Drain	0.60 (V <sub>S</sub> =4.8V)	0.85 (V <sub>S</sub> =4.8V)	V <sub>S</sub> ×0.05	1	4	SSOP5
<b>BD48xxFVE</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							VSOF5
<b>BD48KxxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3 (GND 1pin)
<b>BD48LxxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3 (GND 3pin)
<b>BD49ExxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1	CMOS	0.60 (V <sub>S</sub> =4.8V)	0.85 (V <sub>S</sub> =4.8V)	V <sub>S</sub> ×0.05	1	4	SSOP5
<b>BD49xxFVE</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							VSOF5
<b>BD49KxxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3 (GND 1pin)
<b>BD49LxxG</b> series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3 (GND 3pin)

Detection voltage (from 2.3V to 6.0V as 0.1V step) is applied in the xx of part No. Ex: In case of 2.3V detection voltage in BD48ExxG series, part No. is BD48E23G.

**Voltage Detector ICs (Low Voltage Detection type)**

Part No.	Types	Voltage detection Precision at T <sub>a</sub> =+25°C (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current (μA)		Hysteresis Voltage (V)	“L” Output Current (mA)		Package
							ON	OFF		V <sub>DD</sub> =1.2V	V <sub>DD</sub> =2.4V	
<b>BU48xxG</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1	Open Drain	0.40 (V <sub>DET</sub> =4.8V)	0.55 (V <sub>DET</sub> =4.8V)	V <sub>DET</sub> ×0.05	3.3	6.5	SSOP5
<b>BU48xxFVE</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1							VSOF5
<b>BU48xxF</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1							SOP4
<b>BU49xxG</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1	CMOS	0.40 (V <sub>DET</sub> =4.8V)	0.55 (V <sub>DET</sub> =4.8V)	V <sub>DET</sub> ×0.05	3.3	6.5	SSOP5
<b>BU49xxFVE</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1							VSOF5
<b>BU49xxF</b> series	0.1V step 40 types	±1	0.9 to 4.8	0.7 to 7.0	0.1							SOP4

**Bipolar Voltage Detector IC**

Part No.	Types	Voltage detection Precision at T <sub>a</sub> =+25°C (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current (μA)		Hysteresis Voltage (mV)	“L” Output Current (mA)	Package
							I <sub>OCL</sub>	I <sub>OCH</sub>			
<b>BD47xxG</b> series	0.1V step 28 types	±1	1.9 to 4.6	0.85 to 10.00	0.1	Open Collector	1.5	1.6	50	15	SSOP5

Voltage Detector ICs (Low Voltage Detection Type): \*Detection voltage (from 0.9V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex: In case of 2.3V detection voltage in BU48xxG series, part No. is BU4823G.  
 Bipolar Voltage Detector ICs: \*Detection voltage (from 1.9V to 4.6V as 0.1V step) is applied in the xx of part No. Ex: In case of 2.3V detection voltage in BD47xxG series, part No. is BD4723G.

## Over Voltage Detectors (Reset ICs)

Over Voltage Detector ICs										
Part No.	Voltage Detection Precision at $T_a=+25^{\circ}\text{C}$ (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (mV)	"L" Output Current (mA)	Package
						$I_{\text{OCL}}$	$I_{\text{OCH}}$			
BD71L4LG-1	$\pm 0.8$	4.05	1.2 to 7.0	—	Open Drain	0.6	0.7	30	4 ( $V_{\text{DD}}=4.25\text{V}$ )	SSOP5
BD71L4LHFV-1	$\pm 0.8$	4.05	1.2 to 7.0	—					4 ( $V_{\text{DD}}=4.25\text{V}$ )	HVSOF5
BD71L3SHFV	$\pm 1.0$	3.83	1.2 to 7.0	—					4 ( $V_{\text{DD}}=4.03\text{V}$ )	HVSOF5

Over Voltage Detector ICs (125°C Automotive Grade AEC-Q100 Corresponding)														
Part No.	Types	Voltage Detection Precision Within The All Temperature (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (V)	"L" Output Current (mA)		Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
							ON	OFF		$V_{\text{DD}}=1.2\text{V}$	$V_{\text{DD}}=2.4\text{V}$			
<b>Nano</b> BD70HxxG-2C series	0.1V step 4 types	$\pm 1.4$	3.46 to 3.76	0.8 to 6.0	0.1	Open Drain	0.27	0.3	—	1.0mA or more	SSOP5	FSs	YES	
<b>Nano</b> BD73HxxG-2C series	0.1V step 4 types													3.46 to 3.76

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.  
 Detection voltage is applied in the xx of part No. Please see the Data sheet specifications.

**Nano** Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization.  
**Nano** Mark is a product equipped with Nano Energy™ ultra-low-current technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

## Voltage Detectors with Adjustable Delay Time

Voltage Detectors with Externally-Adjustable Delay Time (SENSE type)															
Part No.	Types	Voltage detection Precision at $T_a=+25^{\circ}\text{C}$ (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (V)	"L" Output Current (mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (M $\Omega$ )	Package	ComfySIL™ Functional Safety*1
							ON	OFF		$V_{\text{DD}}=1.2\text{V}$	$V_{\text{DD}}=2.4\text{V}$				
BD52ExxG series	0.1V step 38 types	$\pm 1$	2.3 to 6.0	0.95 to 10.00	0.1	Open Drain	0.90 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	Variable	9	SSOP5	FSs
BD52xxFVE series	0.1V step 38 types	$\pm 1$	2.3 to 6.0	0.95 to 10.00	0.1		0.90 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	Variable	9	VSO5	—
BD53ExxG series	0.1V step 38 types	$\pm 1$	2.3 to 6.0	0.95 to 10.00	0.1	CMOS	0.90 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	Variable	9	SSOP5	FSs
BD53xxFVE series	0.1V step 38 types	$\pm 1$	2.3 to 6.0	0.95 to 10.00	0.1		0.90 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	Variable	9	VSO5	—

Voltage Detectors with Externally-Adjustable Delay Time (Low Voltage Detection type)															
Part No.	Types	Voltage Detection Precision at $T_a=+25^{\circ}\text{C}$ (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (V)	"L" Output Current (mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (M $\Omega$ )	Package	ComfySIL™ Functional Safety*1
							ON	OFF		$V_{\text{DD}}=1.2\text{V}$	$V_{\text{DD}}=2.4\text{V}$				
BU42xxG series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1	Open Drain	0.40 ( $V_{\text{DET}}=4.8\text{V}$ )	0.55 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	3.3	6.5	Variable	10	SSOP5	—
BU42xxFVE series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1								10	VSO5	—
BU42xxF series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1	CMOS	0.40 ( $V_{\text{DET}}=4.8\text{V}$ )	0.55 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	3.3	6.5	Variable	10	SOP4	—
BU43xxG series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1								10	SSOP5	—
BU43xxFVE series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1								10	VSO5	—
BU43xxF series	0.1V step 40 types	$\pm 1$	0.9 to 4.8	0.7 to 7.0	0.1								10	SOP4	—

Voltage Detector with Externally-Adjustable Delay Time (SENSE type)									
Part No.	Voltage Detection Precision at $T_a=+25^{\circ}\text{C}$ (%)	Voltage Detection (V)	Power Supply Voltage (V)	Output type	Circuit Current ( $\mu\text{A}$ )	Hysteresis Voltage (V)	Output ON Resistance ( $\Omega$ )	RESET Active Timeout Period (ms)	Package
BD4142HFV	$\pm 1.8$	0.5	3.0 to 5.5	Open Drain	7.5	0.01	100	Variable	HVSOF5

Voltage Detectors with Externally-Adjustable Delay Time: Detection voltage (from 2.3V to 6.0V as 0.1V step) is applied in the xx of part No. Ex: In case of 2.3V detection voltage in BD52ExxG series, part No. is BD52E23G.  
 Voltage Detectors with Externally-Adjustable Delay Time (Low Voltage Detection type): Detection voltage (from 0.9V to 4.8V as 0.1V step) is applied in the xx of part No. Ex: In case of 2.3V detection voltage in BU42xxG series, part No. is BU4223G.

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.  
 \*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

## Voltage Detectors with Built-in Delay Time

Voltage Detectors with Built-in Delay Time (Open Drain Output type)														
Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (V)	"L" Output current (mA)		RESET Active Timeout Period (ms)	Manual Reset PIN	Package
							ON	OFF		$V_{\text{DD}}=1.2\text{V}$	$V_{\text{DD}}=2.4\text{V}$			
BD45xx5G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1	Open Drain	0.80 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	50	YES	SSOP5
BD45xx1G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1							100	YES	SSOP5
BD45xx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1							200	YES	SSOP5
BU45Kxx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1		2.3 ( $V_{\text{DET}}=4.8\text{V}$ )	2.8 ( $V_{\text{DET}}=4.8\text{V}$ )				200	NO	SSOP3 (GND 1pin)
BU45Lxx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							200	NO	SSOP3 (GND 3pin)
BU45Kxx4G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							400	NO	SSOP3 (GND 1pin)
BU45Lxx4G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							400	NO	SSOP3 (GND 3pin)

Detection voltage (from 2.3V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex: In case of 2.3V detection voltage in BD45xx5G series, part No. is BD45235G.

Voltage Detectors with Built-in Delay Time (CMOS Output type)														
Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current ( $\mu\text{A}$ )		Hysteresis Voltage (V)	"L" Output current (mA)		RESET Active Timeout Period (ms)	Manual Reset PIN	Package
							ON	OFF		$V_{\text{DD}}=1.2\text{V}$	$V_{\text{DD}}=2.4\text{V}$			
BD46xx5G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1	CMOS	0.80 ( $V_{\text{DET}}=4.8\text{V}$ )	0.85 ( $V_{\text{DET}}=4.8\text{V}$ )	$V_{\text{DET}}\times 0.05$	1.2	5.0	50	YES	SSOP5
BD46xx1G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1							100	YES	SSOP5
BD46xx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.95 to 10.00	0.1							200	YES	SSOP5
BU46Kxx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1		2.3 ( $V_{\text{DET}}=4.8\text{V}$ )	2.8 ( $V_{\text{DET}}=4.8\text{V}$ )				200	NO	SSOP3 (GND 1pin)
BU46Lxx2G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							200	NO	SSOP3 (GND 3pin)
BU46Kxx4G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							400	NO	SSOP3 (GND 1pin)
BU46Lxx4G series	0.1V step 26 types	$\pm 1$	2.3 to 4.8	0.6 to 10.0	0.1							400	NO	SSOP3 (GND 3pin)

Detection voltage (from 2.3V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex: In case of 2.3V detection voltage in BD46xx5G series, part No. is BD46235G.

Voltage Detectors for Automotive

Voltage Detectors (105°C Corresponding)																	
Part No.	Types	Voltage Detection Precision at T <sub>a</sub> =25°C (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection Step (V)	Output type	Circuit Current (μA)		Hysteresis Voltage (V)	"L" Output Current (mA)		RESET Active Timeout Period (ms)	Delay Time Precision (%)	Manual Reset PIN	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
							ON	OFF		V <sub>DD</sub> =1.2V	V <sub>DD</sub> =2.4V						
BD48ExxG-M series	0.1V step 38 types	±1	2.3 to 6.0	0.95 to 10.00	0.1	Open Drain	0.60 (V <sub>DE</sub> =4.8V)	0.85 (V <sub>DE</sub> =4.8V)	V <sub>DE</sub> ×0.05	1.0	4	—	—	NO	SSOP5	FSs	YES
BD49ExxG-M series	0.1V step 38 types		2.3 to 6.0	0.95 to 10.00	0.1	CMOS								NO	SSOP5	FSs	YES
BD45Exx5G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1	Open Drain	0.80 (V <sub>DE</sub> =4.8V)	0.85 (V <sub>DE</sub> =4.8V)	V <sub>DE</sub> ×0.05	1.2	5	50	—	YES	SSOP5	FSs	YES
BD45Exx1G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1							100	—	YES	SSOP5	FSs	YES
BD45Exx2G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1	CMOS						200	—	YES	SSOP5	FSs	YES
BD46Exx5G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1							50	—	YES	SSOP5	FSs	YES
BD46Exx1G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1	CMOS						100	—	YES	SSOP5	FSs	YES
BD46Exx2G-M series	0.1V step 26 types		2.3 to 4.8	0.95 to 10.00	0.1							200	—	YES	SSOP5	FSs	YES
Nano BD52xxG-2M series	0.1V step 42 types	±2.5 (All Temperature)	0.9 to 5.0	0.8 to 6.0	0.1	Open Drain	0.23	0.27	V <sub>DE</sub> ×0.05	1.0mA or more	2.0mA or more	Variable	±30% (All Temperature)	NO	SSOP5	FSs	YES
Nano BD53xxG-2M series	0.1V step 42 types		0.9 to 5.0	0.8 to 6.0	0.1	CMOS						Variable		NO	SSOP5	FSs	YES

Voltage Detectors (125°C Corresponding)																	
Part No.	Types	Voltage Detection Precision Within The All Temperature (%)	Voltage Detection (V)	RESET Active Voltage (V)	Detection step (V)	Output type	Circuit current (μA)		Hysteresis Voltage (V)	"L" Output current (mA)		RESET Active Timeout Period (ms)	Delay Time Precision (%)	Manual Reset PIN	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
							ON	OFF		V <sub>DD</sub> =1.2V	V <sub>DD</sub> =2.4V						
Nano BD52xxG-2C series	0.1V step 42 types	±3	0.9 to 5.0	0.8 to 6.0	0.1	Open Drain			V <sub>DE</sub> ×0.05	1.0mA or more	2.0mA or more	Variable	±50 (All Temperature)	NO	SSOP5	FSs	YES
Nano BD53xxG-2C series	0.1V step 42 types		0.9 to 5.0	0.8 to 6.0	0.1	CMOS	0.23	0.27							Variable		NO
Nano BD52xxNVX-2C series	0.1V step 6 types	±2.5	2.6 to 3.1	0.8 to 6.0	0.1	Open Drain	0.27	0.3	—			Variable	—	NO	SSON004R1010	FSs	YES
Nano BD70HxxG-2C/ BD70HxxG-C series	0.1V step 5 types	±1.4	3.46 to 3.76/ 3.06	0.8 to 6.0	0.1												
Nano BD73HxxG-2C series	0.1V step 4 types			3.46 to 3.76	0.8 to 6.0	0.1	CMOS						—		NO	SSOP5	FSs

Window Voltage Detector (125°C Corresponding)																						
Part No.	Voltage Detection Precision Within The All Temperature (%)	Over Voltage Detection (V)	Low Voltage Detection (V)	Output Type	Circuit current (μA)	Hysteresis Voltage (V)	"L" Output Current (mA)		RESET Active Timeout Period (ms)	Delay Time Precision (%)	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100									
							V <sub>DD</sub> =1.6V	V <sub>DD</sub> =2.4V														
New BD48W00G-C	±2.5	1.2	1.2	Open Drain	3	V <sub>DE</sub> ×0.01	1	2	Variable	±50 (All Temperature)	SSOP6	FSs	YES									
Nano BD52W01G-C		1.32	1.08																	SSOP6	FSs	YES
Nano BD52W03G-C	±5	1.98	1.62											0.3						SSOP6	FSs	YES
Nano BD52W05G-C		3.63	2.97																	SSOP6	FSs	YES
Nano BD52W06G-C		5.5	4.5																	SSOP6	FSs	YES

Detection voltage is applied in the "xx" of part No. Ex.: In case of 2.3V detection voltage in BD48ExxG-M series, Part No. is BD48E23G-M.

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

 Nano Mark is a product using Nano Pulse Control™ technology, Nano Energy™ technology or Nano Cap™ technology. ROHM's innovative "Nano" power supply technologies achieve breakthrough energy savings and miniaturization. Nano Mark is a product equipped with Nano Energy™ ultra-low-current technology. Nano Energy™, Nano Pulse Control™ and Nano Cap™ is a trademark or a registered trademark of ROHM Co., Ltd.

Power Supply Monitoring IC for Automotive

4ch System Power Good (Watchdog Timer+Reset)													
Part No.	Supply Voltage (V)	RESET Detection Voltage (V)	Power good Detection Voltage (V)	Detection level (%)	Detection Precision (%)	Power good ch	Output type	WDT type	RESET Active Timeout Period	Self-diagnosis function	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD39040MUF-C	2.7 to 5.5	Variable	Variable	±10	±3	4	Open Drain	Window Type	10ms	YES	VQFN16FV3030	FSs	YES
New BD39042MUF-C	2.7 to 5.5			±6	±1.4				10ms				

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.

\*1 For more information about "ComfySIL™ Functional Safety", please refer to the of the cover.

Others

Voltage Detectors with Watchdog Timer													
Part No.	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage (V)	Output type	Circuit Current (μA)	Hysteresis Voltage (V)	"L" Output Current (mA)		RESET Active Timeout Period	Delay Circuit Resistance (MΩ)	WDT Active Voltage (V)	INH Mode (Active)	Package
							V <sub>DD</sub> =1.2V	V <sub>DS</sub> =0.5V					
BD37A19FVM	±1.5	1.9	1.0 to 10.0	Open Drain	5	V <sub>DE</sub> ×0.13	0.7	Variable	10	2.5 to 10.0		H	MSOP8
BD37A41FVM	±1.5	4.1	1.0 to 10.0									H	MSOP8
BD87A28FVM	±1.5	2.8	1.0 to 10.0									L	MSOP8
BD87A29FVM	±1.5	2.9	1.0 to 10.0									L	MSOP8
BD87A34FVM	±1.5	3.4	1.0 to 10.0									L	MSOP8
BD87A41FVM	±1.5	4.1	1.0 to 10.0									L	MSOP8
BD99A41F	±1.5	4.1	1.0 to 10.0									H	SOP8

Composite type Voltage Detector (2ch+Comparator)								
Part No.	Voltage Detection Precision (%)	Voltage Detection (V)	Output type	Circuit Current (μA)	Hysteresis Voltage (mV)	RESET Active Timeout Period	Input Voltage (V)	Package
BD3775AF	±1.5	1.23	Open Collector+Constant Current Pull Up	350	28	Variable	3.5 to 18.0	SOP8