

LED Drivers

Boost Converter LED Drivers

White LED Drivers with External FET

Part No.	Supply Voltage (V)	No. of LEDs	Output Voltage (V)	Switching Frequency (MHz)	Primary Brightness Control Method	Control Interface	Package (mm)
BD6583MUV-A	2.7 to 22.0	Max 72 12series×6strings in parallel (V _F restrictions exist)	Max 43.0	1	PWM signal from the PWMPOW/PWMDRV terminal Resistance switching at the ISET terminal	Pin logic setting	VQFN024V4040
BD9486F	9 to 18	Max About 120 120series×1string in parallel	Max About 400	0.05 to 0.80	PWM signal Analog signal	Pin logic setting	SOP16
BD9411F	9 to 35	Max About 120 120series×1string in parallel	Max About 400	0.05 to 1.00	PWM signal Analog signal	Pin logic setting	SOP18
BD9413F	9 to 35	Max About 120 120series×1string in parallel	Max About 400	0.05 to 1.00	PWM signal Analog signal	Pin logic setting	SOP18
BD9483F	11 to 35	Max About 240 120series×2strings in parallel	Max About 400	0.05 to 0.80	PWM signal Analog signal	Pin logic setting	SOP24
BD9483FV	11 to 35	Max About 240 120series×2strings in parallel	Max About 400	0.05 to 0.80	PWM signal Analog signal	Pin logic setting	SSOP-B24
BD9416F	9 to 35	Max About 240 120series×2strings in parallel	Max About 400	0.05 to 1.00	PWM signal Analog signal	Pin logic setting	SOP24
BD9416FS	9 to 35	Max About 240 120series×2strings in parallel	Max About 400	0.05 to 1.00	PWM signal Analog signal	Pin logic setting	SSOP-A24
BD9479FV	9 to 35	Max About 96 12series×8strings in parallel	Max About 40	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	SSOP-B40
BD9408FV	9 to 35	Max About 120 120series×1string in parallel	Max About 400	0.05 to 2.00	PWM signal Analog signal	Pin logic setting	SSOP-B14
BD9409F	11.5 to 35.0	Max About 120 120series×1string in parallel	Max About 400	0.05 to 1.00	PWM signal Analog signal	Pin logic setting	SOP16
BD9420F	9 to 35	Max 72 12series×6strings in parallel (V _F restrictions exist)	Max About 40	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	SOP28
BD9421F	9 to 35	Max 72 12series×6strings in parallel (V _F restrictions exist)	Max About 40	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	SOP24

White LED Drivers with Integrated FET

BD60A00NUX	2.7 to 5.5	Max 10 10series×1string in parallel	Max 40.0	0.6	PWM signal Resistance switching at the ISET terminal	Pin logic setting	VSON008X2030
BD60A60NUX	2.7 to 5.5	Max 6 6series×1string in parallel	Max 26.0	0.6	PWM signal Resistance switching at the ISET terminal	Pin logic setting	VSON008X2030
BD65B60GWL	2.7 to 5.5	Max 16 8series×2strings in parallel	Max 28.5	1.1/0.6	I ² C BUS PWM signal Resistance switching at the ISET terminal	I ² C BUS + PWM	UCSP50L1 1.4×1.8, H=Max 0.55
BD6586MUV	2.7 to 5.5	Max 24 6series×4strings in parallel	Max 24.0	1	PWM signal Resistance switching at the ISET terminal	Pin logic setting	VQFN024V4040
BD65D00MUV	6 to 27	Max 40 10series×4strings in parallel	Internal FET Max 40.0 External FET Max 80.0	0.6 to 1.6	PWM signal Resistance switching at the ISET terminal Analog voltage control	Pin logic setting	VQFN028V5050
BD6142AMUV	4.2 to 27	Max 80 10series×8strings in parallel	Max 41.0	0.6 to 1.6	PWM signal Resistance switching at the ISET terminal Analog voltage control	Pin logic setting	VQFN024V4040
BD9394EFV	9 to 35	Max 72 18series×4strings in parallel	Max 60.0	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	HTSSOP-B24
BD9394FP	9 to 35	Max 72 18series×4strings in parallel	Max 60.0	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	HSOP20
BD93941EFV	9 to 35	Max 72 18series×4strings in parallel	Max 60.0	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	HTSSOP-B20
BD93941FP	9 to 35	Max 72 18series×4strings in parallel	Max 60.0	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	HSOP20
BD93942F	9 to 35	Max 72 18series×4strings in parallel	Max 60.0	0.1 to 0.8	PWM signal Analog signal	Pin logic setting	SOP16
BD9470AEFV	9 to 35	Max 72 18series×4strings in parallel	Max 40.0	0.1 to 0.5	PWM signal	Pin logic setting	HTSSOP-B28
BD9470AFM	9 to 35	Max 72 18series×4strings in parallel	Max 40.0	0.1 to 0.5	PWM signal	Pin logic setting	HSOP-M28
BD9397EFV	9 to 35	Max 84 14series×6strings in parallel	Max 50.0	0.10 to 1.25	PWM signal Analog signal	Pin logic setting	HTSSOP-B40
BD9422EFV	9 to 35	Max 84 14series×6strings in parallel	Max 60.0	0.10 to 1.25	PWM signal Analog signal	Pin logic setting I ² C	HTSSOP-B40

Synchronous White LED Drivers with Integrated FET

BD6071HFN	2.7 to 5.5	Max 3 3series×1string in parallel	Max 14.0	1	PWM signal from EN terminal	—	HSO8
BD6072HFN	2.7 to 5.5	Max 4 4series×1string in parallel	Max 18.0	1	PWM signal from EN terminal	—	HSO8

LED Camera Flash Drivers

Part No.	Supply Voltage (V)	Number of LED	Output Voltage (V)	Output Current	Switching Frequency (MHz)	Control Interface	Package (mm)
BD6164GUT	2.7 to 4.5	1 (Large current LED)	Max 4.7	52, 72mA (Torch mode) 260, 280, 300, 320mA (Flash mode)	4	I ² C BUS	VCSP60N1 1.5×1.1, H=Max 0.675
BD7757MWX	2.7 to 5.0	Max 2 1 to 2series×1string in parallel (V _F restrictions exist) (large current LED)	Max 5.1	0 to 1.5A	2	UPIC*	USON014X3020

White LED Driver for Head Light

Part No.	Supply Voltage (V)	Application	ch	Maximum Input Voltage (V)	Output Current	Dimmer Mode	DC/DC	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BD18351EFV-M	4.5 to 65.0	Head Lamp/DRL	1	65	Depend on Extra parts	PWM/ Analog	Boost	-40 to +125	HTSSOP-B24	YES
PWM/ Analog 1,2						HTSSOP-B20			YES	

New

*UPIC: Uni-Port Interface Control

LED Drivers

Buck Converter LED Drivers

Buck Converter LED Lighting Drivers for DC/DC Converter type						
Part No.	Supply Voltage (V)	Switching Terminal Voltage (V)	Ron (Ω)	Operating Frequency (kHz)	Over Current Protection	Package
BM531Q11	9.0 to 35.0	250	0.93 (Typ)	Max 440	✓	DIP7AK
BD94062F	10.5 to 35.0	—	—	Max 800	✓	SOP16

White LED Drivers for PFC Direct Connection Current Resonance type						
Part No.	Supply Voltage (V)	Drive Method	Oscillation Frequency Variable (kHz)	Primary Brightness Control Method	Control Interface	Package
BD92111F	8.0 to 18.0	Half Bridge	30 to 200	PWM signal	Pin logic setting	SOP18
BD94121F	9.0 to 18.0	Half Bridge	30 to 300	PWM signal/Analog signal	Pin logic setting	SOP18
BD94122F	9.0 to 18.0	Half Bridge	30 to 300	PWM signal/Analog signal	Pin logic setting	SOP18

Buck-Boost LED Drivers

White LED Drivers										
Part No.	Power Supply (V)	Boost FET	ch	Output Voltage (V)	Output Current (mA)	Switching Frequency (MHz)	PWM Dimming Ratio	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BD81A24EFV-M	4.5 to 35.0	Internal	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	HTSSOP-B28	YES
BD81A24MUV-M	4.5 to 35.0	Internal	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	VQFN28SV5050	YES
BD81A24MUF-M	4.5 to 35.0	Internal	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	VQFN28FV5050	YES
BD81A44EFV-M	4.5 to 35.0	External	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	HTSSOP-B28	YES
BD81A44MUV-M	4.5 to 35.0	External	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	VQFN28SV5050	YES
BD81A44MUF-M	4.5 to 35.0	External	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	VQFN28FV5050	YES
BD81A74EFV-M	4.5 to 35.0	External	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	HTSSOP-B28	YES
BD81A74MUV-M	4.5 to 35.0	External	4	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	VQFN28SV5050	YES
BD81A76EFV-M	4.5 to 35.0	External	6	Max 40	Max 120/ch	0.2 to 2.2	10,000 : 1@100Hz	-40 to +125	HTSSOP-B30	YES

White LED Driver for Head Light										
Part No.	Power Supply (V)	Application	ch	Rated Voltage (V)	Output Current	Dimmer Mode	DC/DC	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BD8381AEFV-M	5 to 30	Head Lamp/DRL	1	50	Depend on extraparts	PWM/DC	Buck-Boost, Boost, Buck	-40 to +125	HTSSOP-B28	YES

LED Drivers

LED Drivers for Lighting

AC/DC Controller ICs for LED Lighting Included 650V MOSFET							
Part No.	Supply Voltage (V)	Input AC Voltage (Vac)	Built-in PFC Function	Built-in MOSFET	LED Average Current (mA)	Switching Frequency (kHz)	Package
BM520Q15F	8.9 to 26.0	80 to 275	—	✓	up to 200	20 to 200	SOP8
BM521Q25F	8.9 to 25.0	80 to 275	✓	✓	up to 200	20 to 300	SOP8
BD521GOFJ	8.9 to 25.0	80 to 275	✓	—	—	20 to 300	SOP-J8

Inductorless (Charge Pump) LED Drivers

White LED Drivers								
Part No.	Supply Voltage (V)	No. of LEDs	Charge Pump Step-up Circuit			Primary Brightness Control Method	Control Interface	Package
			Output Voltage (V)	Output Current (mA)	Pump Frequency			
BD1604MUV	2.7 to 5.5	1 to 4	Max 4.5	120	1MHz	PWM control via EN terminal Resistance switching at ISET terminal	Pin logic setting	VQFN016V3030
BD2606MUV	2.7 to 5.5	1 to 6	Max 4.7	120	250kHz/1kHz	Built-in 64-step current DAC (0.5 to 32.0mA)	I ² C BUS	SQFN016V4040

Constant Current/Serial-in Parallel-out LED Drivers

Parallel-out LED Drivers												
Part No.	Supply Voltage (V)	No. of LEDs	Constant Current Driver							Control Interface	Package	
			Max Current Setting Method	Max Current	Channel-to-Channel Matching	Brightness Control	Output Voltage (V)	No. of Output (ch)	Output Method			Max LED Current
BD1754HFN	2.7 to 5.5	1 to 4 (Parallel Connection)	Resistance change at ISET terminal	32mA (at an ISET resistance of 120kΩ)	Max 3% (at 1V LED pin voltage)	Built-in 64-step current DAC					UPIC*	HS0N8
BD2802GU	2.7 to 5.5	6 (RGB 2ch)	Resistance change at ISET terminal	30.48mA (at an ISET resistance of 120kΩ)	Max 10% (at 1V LED pin voltage)	Built-in 128-step current DAC					I ² C BUS	VCSP85H2
BD2812GU	2.7 to 5.5	6 (RGB 2ch)	Resistance change at ISET terminal	30.48mA (at an ISET resistance of 120kΩ)	Max 10% (at 1V LED pin voltage)	Built-in 128-step current DAC/ Inductorless (Charge Pump)					I ² C BUS	VCSP85H3
Part No.	Supply Voltage (V)	Output Voltage (V)	No. of Output (ch)	Output Method	Max LED Current	Each Output Format	Other	Control Method	Max Clock Frequency (MHz)	Package	Automotive Grade AEC-Q100	
BD8379EFV-M	3.0 to 5.5	35	12	Open Drain	50mA/ch	ON/OFF	—	SPI	1.25	HTSSOP-B20	YES	
BD2808MUV-M	3.0 to 5.5	20	RGB×8 (24ch)	Constant Current	50mA/ch	Built-in 64-step current DAC for RGB	Built-in 256-step PWM control for all channels	2-Wire Serial	1.0	VQFN48MCV070	YES	
BD8388FV-M	3.0 to 5.5	40	8	Open Drain	50mA/ch	ON/OFF	—	SPI	1.25	SSOP-B16	YES	
BD8389FV-M	3.0 to 5.5	40	12	Open Drain	50mA/ch	ON/OFF	—	SPI	1.25	SSOP-B20	YES	
Dot Matrix LED Drivers												
Part No.	Supply Voltage (V)	LED Matrix	Max LED Current	Built-in Pattern		Matrix Data RAM	Mobile Light	PWM Dimming (step)	Current Setting (step)	Interface	Max Clock Frequency	Package (mm)
				Scroll	Slope							
BU26507GUL	2.7 to 5.5	5×6 30dots	42.5mA/Line	✓	✓	2pages	—	64	16	I ² C BUS/SPI (2 address/—)	400kHz/13MHz	VCSP50L2 2.5×2.5, H=Max 0.55
BD26503GUL	2.7 to 5.5	7×17 119dots	30mA/Line	✓	✓	2pages	—	64	16	I ² C BUS/SPI (2 address/—)	400kHz/13MHz	VCSP50L3 3.6×3.6, H=Max 0.55
BD26503KS2	2.7 to 5.5	7×17 119dots	30mA/Line	✓	✓	2pages	—	64	16	I ² C BUS/SPI (2 address/—)	400kHz/13MHz	SQFP-T52
BU16501KS2	2.7 to 5.5	8×16 128dots	42.5mA/Line	—	—	1page	—	64	16	I ² C BUS/SPI (2 address/—)	400kHz/13MHz	SQFP-T52
LED Source Drivers (For Automotive)												
Part No.	Supply Voltage (V)	Application	ch	Driver	Maximum Input Voltage (V)	Maximum Output Current (mA)	Dimmer Mode	Accuracy of Current (%)	Disable LED Open Detection Voltage (V)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BD18340FV-M	4.5 to 19.0	DRL/Position/FOG/Turn/Rear	1 to 10	Controller (External PNP)	70	Total 1,000	PWM/DC (±5%)	±3 (T _a =25 to 125°C)	variable	-40 to +125	SSOP-B16	YES
BD18341FV-M	4.5 to 19.0	DRL/Position/FOG/Turn/Rear	1 to 10	Controller (External PNP)	70	Total 1,000	PWM/DC (±12%)	±3 (T _a =25 to 125°C)	variable	-40 to +125	SSOP-B16	YES
BD18342FV-M	4.5 to 19.0	DRL/Position/FOG/Turn/Rear	1 to 10	Controller (External PNP)	70	Total 1,000	PWM	±3 (T _a =25 to 125°C)	variable	-40 to +125	SSOP-B16	YES
BD18343FV-M	4.5 to 19.0	DRL/Position/FOG/Turn/Rear	1 to 10	Controller (External PNP)	70	Total 1,000	External PWM signal	±3 (T _a =25 to 125°C)	variable	-40 to +125	SSOP-B16	YES
BD18345EFV-M	4.5 to 19.0	DRL/Position/FOG/Turn/Rear	1 to 10	Controller (External PNP)	70	Total 1,000	PWM/DC	±3 (T _a =25 to 125°C)	variable	-40 to +125	HTSSOP-B20	YES
New BD18336NUF-M	5.5 to 20.0	DRL/Position/FOG/Turn/Rear	1	Internal	40	400mA (DC) 600mA (ON Duty: 50%)	PWM/DC	±10 (Output current: 100 to 240mA) (T _a =-40 to +150°C) ±5 (Output current: 240 to 600mA) (T _a =-40 to +150°C)	11.0	-40 to +150	VSON10FV3030	YES
BD18337EFV-M	5.5 to 20.0	DRL/Position/FOG/Turn/Rear	4	Internal	40	150mA/ch	PWM	±10 (Output current: 50 to 100mA) (T _a =-40 to +125°C) ±5 (Output current: 100 to 150mA) (T _a =-40 to +125°C)	11.0	-40 to +125	HTSSOP-B16	YES
BD18347EFV-M	5.5 to 20.0	DRL/Position/FOG/Turn/Rear	4	Internal	40	150mA/ch	PWM	±10 (Output current: 50 to 100mA) (T _a =-40 to +125°C) ±5 (Output current: 100 to 150mA) (T _a =-40 to +125°C)	7.65	-40 to +125	HTSSOP-B16	YES
BD8372EFJ-M	5.5 to 40.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	200	High Current/Low Current	±3 (T _a =25°C)	—	-40 to +125	HTSOP-J8	YES
BD8372HFP-M	5.5 to 40.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	200	High Current/Low Current	±3 (T _a =25°C)	—	-40 to +125	HRP7	YES
BD8374EFJ-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM	±3 (T _a =25°C)	—	-40 to +125	HTSOP-J8	YES
BD8374HFP-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM	±3 (T _a =25°C)	—	-40 to +125	HRP7	YES
BD83732HFP-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM/DC	±3 (T _a =25°C)	7.65	-40 to +125	HRP7	YES
BD83733HFP-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM/DC	±3 (T _a =25°C)	11.0	-40 to +125	HRP7	YES
BD83740HFP-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM	±3 (T _a =25°C)	—	-40 to +125	HRP7	YES
BD83740EFJ-M	4.5 to 42.0	DRL/Position/FOG/Turn/Rear	1	Internal	50	500	PWM	±3 (T _a =25°C)	—	-40 to +125	HTSOP-J8	YES

*UPIC: Uni-Port Interface Control