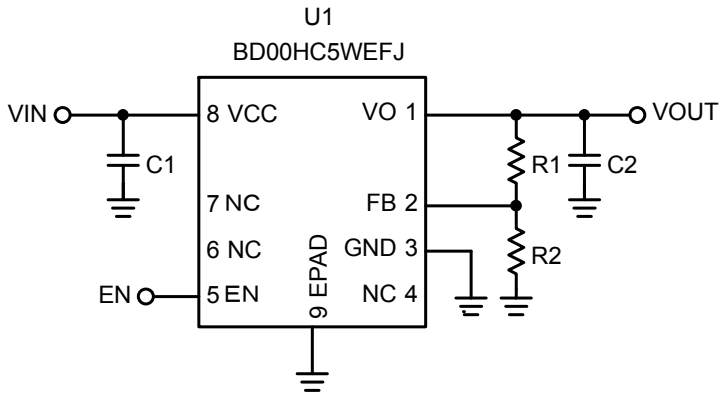
Linear Regulator
Application Information

IC Product Name	BD00HC5WEFJ
Topology	LDO Linear Regulator
Type	Voltage source

	Input	Output
1	4.5V to 8.0V	1.8V, 1.5A *1
2	4.5V to 8.0V	2.5V, 1.5A *1
3	4.5V to 8.0V	3.0V, 1.5A *1
4	4.5V to 8.0V	3.3V, 1.5A *1
5	6.9V to 8.0V	6.0V, 1.5A *1

*1 Not to exceed power dissipation.

■ Typical Application Circuit



■ EN terminal setting

Terminal state	IC operation
2.4V ～ 8.0V	Normal operation
0V ～ 0.8V	Power down

■ Output voltage setting

$$V_{OUT} = \frac{R_1 + R_2}{R_2} \times 0.8\ [V]$$

Input/output voltage conditions are required to satisfy the following equations:

$$V_{OUT} = 1.5V \sim (V_{IN} - 0.9)V \qquad \text{at } I_O = 1.5A$$

$$(V_{IN} - 0.9) \leq 7.0V$$

The use of resistors with $R_1 + R_2$=1kΩ to 90kΩ recommended.

Bill of Materials

1. V_O=1.8V (V_{IN}=4.5V to 8.0V)

Count	Reference Designator	Type	Value	Description	Manufacturer Part Number	Manufacturer	Configuration (mm)
1	C1	Ceramic Capacitor	2.2μF	16V, B, ±10%	GRM219B31C225KA87	MURATA	2012
1	C2	Ceramic Capacitor	2.2μF	6.3V, B, ±10%	GRM188B30J225KE18	MURATA	1608
1	R1	Resistor	15kΩ	0.063W, 50V, 1%	MCR01MZPF1502	ROHM	1005
1	R2	Resistor	12kΩ	0.063W, 50V, 1%	MCR01MZPF1202	ROHM	1005
1	U1	IC	-	LDO Linear Regulator	BD00HC5WFEJ	ROHM	HTSOP-J8

2. V_O=2.5V (V_{IN}=4.5V to 8.0V)

Count	Reference Designator	Type	Value	Description	Manufacturer Part Number	Manufacturer	Configuration (mm)
1	C1	Ceramic Capacitor	2.2μF	16V, B, ±10%	GRM219B31C225KA87	MURATA	2012
1	C2	Ceramic Capacitor	2.2μF	6.3V, B, ±10%	GRM188B30J225KE18	MURATA	1608
1	R1	Resistor	51kΩ	0.063W, 50V, 1%	MCR01MZPF5102	ROHM	1005
1	R2	Resistor	24kΩ	0.063W, 50V, 1%	MCR01MZPF2402	ROHM	1005
1	U1	IC	-	LDO Linear Regulator	BD00HC5WFEJ	ROHM	HTSOP-J8

3. V_O=3.0V (V_{IN}=4.5V to 8.0V)

Count	Reference Designator	Type	Value	Description	Manufacturer Part Number	Manufacturer	Configuration (mm)
1	C1	Ceramic Capacitor	2.2μF	16V, B, ±10%	GRM219B31C225KA87	MURATA	2012
1	C2	Ceramic Capacitor	2.2μF	10V, B, ±10%	GRM219B11A225KA01	MURATA	2012
1	R1	Resistor	33kΩ	0.063W, 50V, 1%	MCR01MZPF3302	ROHM	1005
1	R2	Resistor	12kΩ	0.063W, 50V, 1%	MCR01MZPF1202	ROHM	1005
1	U1	IC	-	LDO Linear Regulator	BD00HC5WFEJ	ROHM	HTSOP-J8

4. V_O=3.3V (V_{IN}=4.5V to 8.0V)

Count	Reference Designator	Type	Value	Description	Manufacturer Part Number	Manufacturer	Configuration (mm)
1	C1	Ceramic Capacitor	2.2μF	16V, B, ±10%	GRM219B31C225KA87	MURATA	2012
1	C2	Ceramic Capacitor	2.2μF	10V, B, ±10%	GRM219B11A225KA01	MURATA	2012
1	R1	Resistor	7.5kΩ	0.063W, 50V, 1%	MCR01MZPF7501	ROHM	1005
1	R2	Resistor	2.4kΩ	0.063W, 50V, 1%	MCR01MZPF2401	ROHM	1005
1	U1	IC	-	LDO Linear Regulator	BD00HC5WFEJ	ROHM	HTSOP-J8

5. V_O=6.0V (V_{IN}=6.9V to 8.0V)

Count	Reference Designator	Type	Value	Description	Manufacturer Part Number	Manufacturer	Configuration (mm)
2	C1, C2	Ceramic Capacitor	2.2μF	16V, B, ±10%	GRM219B31C225KA87	MURATA	2012
1	R1	Resistor	13kΩ	0.063W, 50V, 1%	MCR01MZPF1302	ROHM	1005
1	R2	Resistor	2kΩ	0.063W, 50V, 1%	MCR01MZPF2001	ROHM	1005
1	U1	IC	-	LDO Linear Regulator	BD00HC5WFEJ	ROHM	HTSOP-J8

Precautions for use

(1) This document provides the BOM for evaluation boards. Small parts can also be selected for resistor, and capacitor.
(2) When miniaturizing a resistor, consider decrease in rated power and withstand voltage.
(3) When miniaturizing a ceramic capacitor, consider decrease in withstand voltage. In addition, the capacity may be decreased by DC bias characteristics, and the desired characteristics may not be obtained.
(4) If ceramic capacitor models differ even when they have the same capacity and withstand voltage, the capacity may be decreased by DC bias characteristics depending on the model, and desired characteristics may not be obtained. Be sure to check the DC bias characteristics.
(5) This circuit constant is the value for our evaluation board. It may be necessary to adjust the constant for the actual board. Carry out suitable evaluations.

Notes

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2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
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