

### Circuit Performance

- Positive-to-negative voltage converter
- Wide input voltage range
- Output ripple voltage <40mV

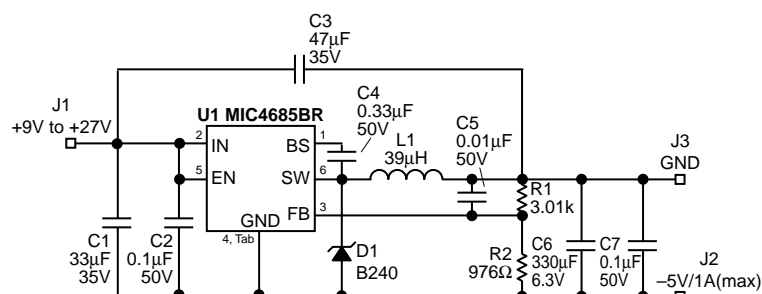


Figure 1. Buck-Boost Converter

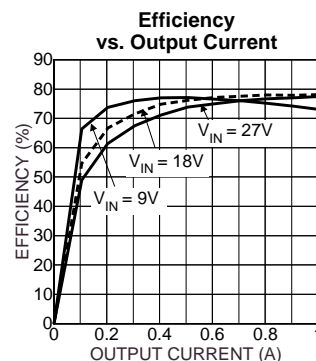


Figure 2. Typical Efficiency vs. Output Current

### Bill of Materials

Item	Part Number	Manufacturer	Description	Qty
C1	594D336X0035R2T	Vishay Sprague <sup>1</sup>	33µF/35V Tantalum	1
C2,C7	VJ0805Y104KXXAAB	Vishay Vitramon <sup>2</sup>	0.1µF/50V Ceramic	2
C3	594D476X0035R2T	Vishay Sprague <sup>1</sup>	47µF/35V Tantalum	1
C4	GRM426X7R334K50	Murata <sup>3</sup>	0.33µF/50V Ceramic	1
C5	GRM40X7R103K50	Murata <sup>3</sup>	0.01µF/50V Ceramic	1
D1	B220	Diodes, Inc. <sup>4</sup>	2A/20V Schottky Rectifier	1
L1	CDRH127-390MC	Sumida <sup>5</sup>	39µH Inductor	1
R1			3.01k Resistor	1
R2			976 Resistor	1
U1	MIC4685BR	Micrel <sup>6</sup>	3A 200kHz S-PAK Buck Regulator	1

**Note 1.** Vishay Sprague, Inc., tel: 207-490-7256, <http://www.vishay.com>

**Note 2.** Vishay Vitramon, Inc., tel: 203-452-5615, <http://www.vishay.com>

**Note 3.** Murata, tel: 949-916-4000, <http://www.murata.com>

**Note 4.** Diodes, Inc., tel: 800-344-3860, <http://www.diodes.com>

**Note 5.** Sumida, tel: 510-668-0660, <http://www.sumida.com>

**Note 6.** Micrel Semiconductor, tel: 408-944-0800, <http://www.micrel.com>

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