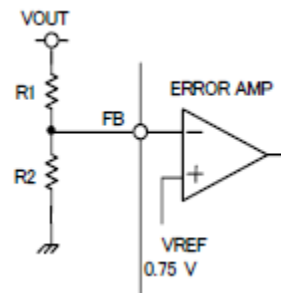


BD9G101G

Overview/Features

Features

- Output current up to 500 mA
- Wide input voltage range from 6 V to 42 V
- Integrated power MOSFET with 800 mΩ R_{ON}
- Adjustable output voltage: 0.9 V to V_{in} × 0.7 V
- Feedback voltage 0.75 V ± 1.5% at room temp. (±2.0% for -25° C to 105° C)



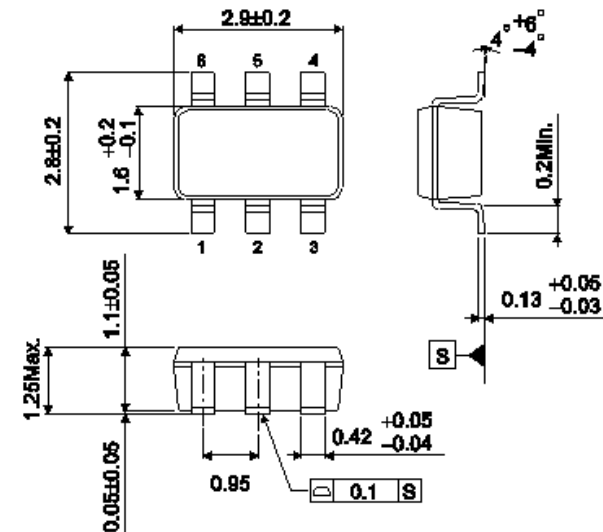
$$V_o = \frac{(R1+R2)}{R2} \times 0.75[V]$$

BD9G101G

Overview/Features

Extended Features

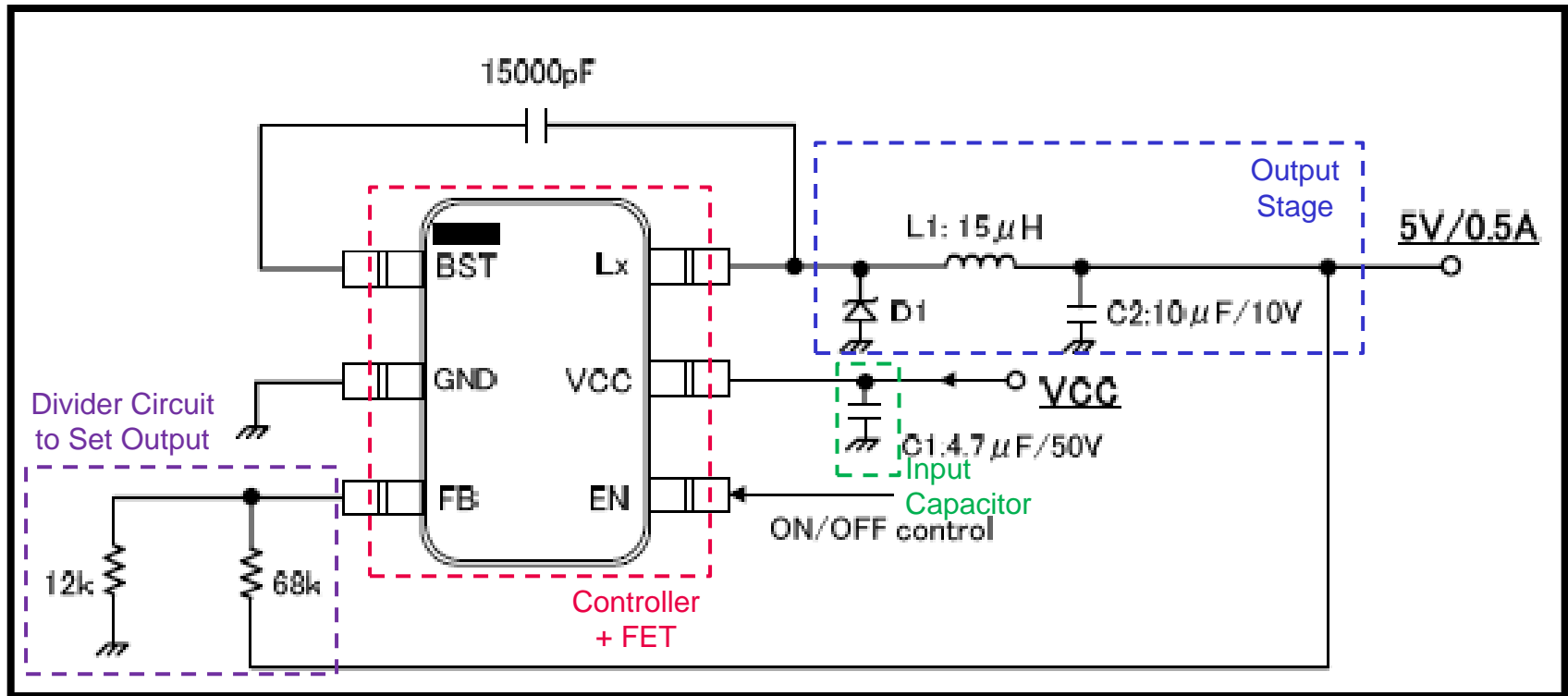
- 1.5MHz preset oscillation frequency
- Soft start function
- Integrated protection
 - Over-current protection (OCP)
 - Thermal shutdown (TSD)
 - Under-voltage lockout (UVLO)
- ON/OFF control through EN pin
- 0 μ A typical standby current (EN=0)
- Wide operating temperature range: -40°



Package: SSOP6

BD9G101G

Application Circuit Example



Note: In this example, the nominal resistance values of R1 and R2 were selected to set a 5.0 V output.

BD9G101G

Operating Current and Efficiency

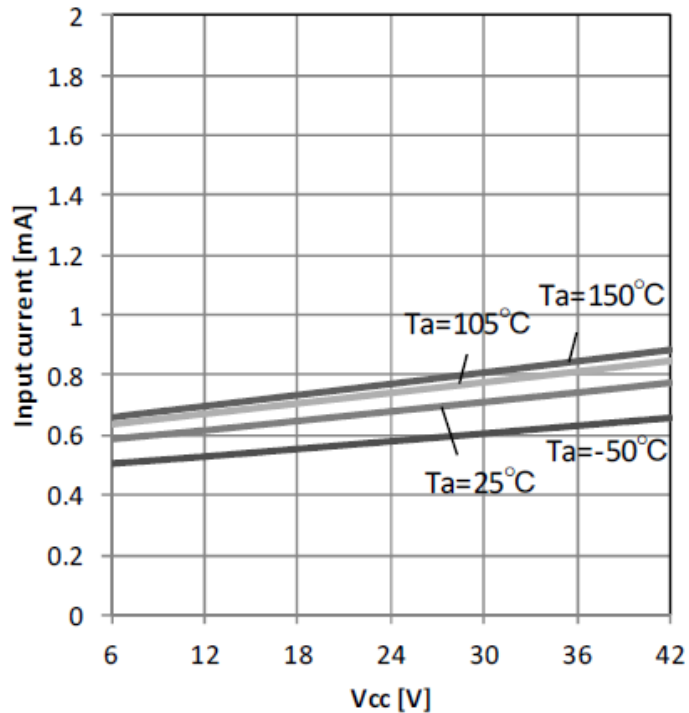


Figure 6. Operating Current - Input Voltage

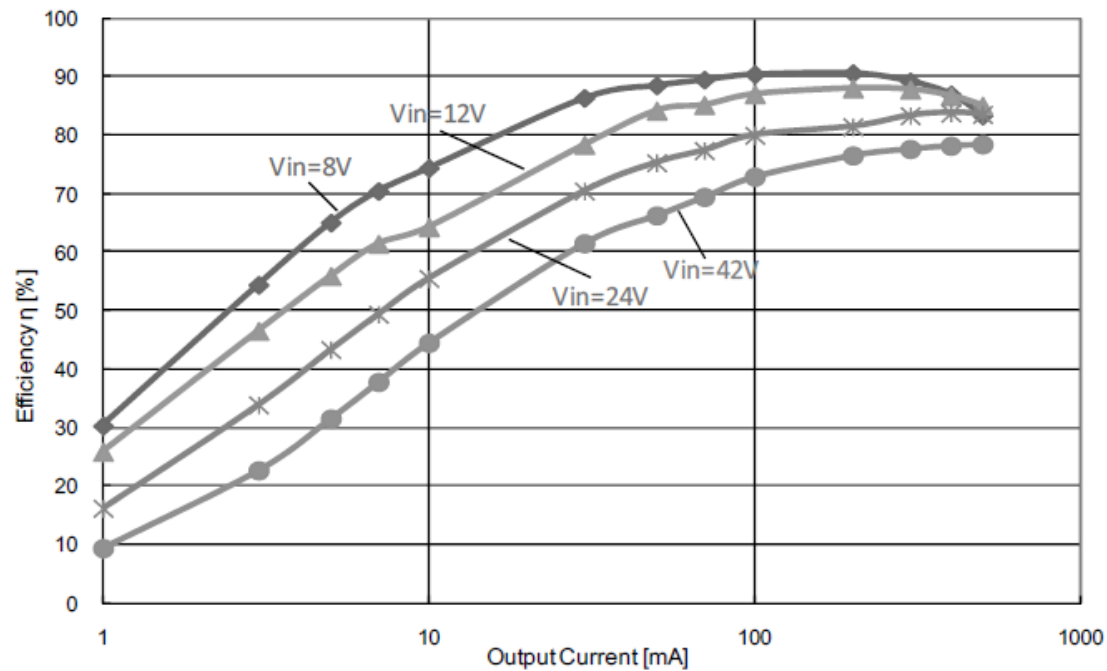
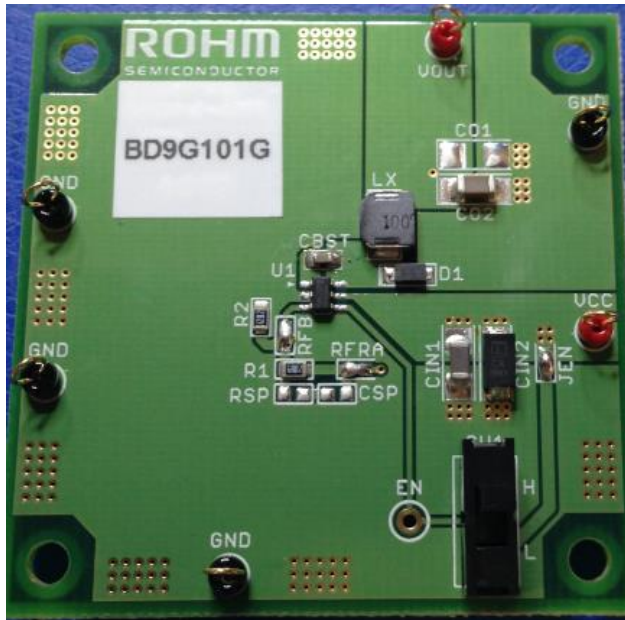


Figure 18. Efficiency - Output Current VOUT=5V

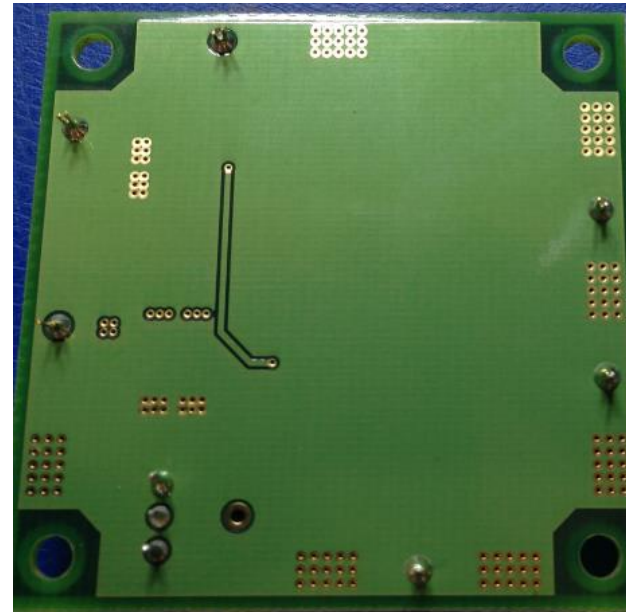
BD9G101G

Evaluation Hardware

For Applications Requiring Up to 500 mA



BD9G101G Eval Board (Front)



BD9G101G Eval Board (Back)

BD9G101G

Evaluation Board BOM

Item	Qty	Ref	Description	Manufacturer	Part Number	Digikey P/N
1	1	CIN1	CAP CER 4.7UF 50V Y5V 1206	Murata	GRM31CF51H475ZA01L	490-1828-1-ND
2	1	CIN2	DIODE TVS 30V 400W UNI 5% SMA	Littlefuse	SMAJ30A	SMAJ30ALFTR-ND
3	1	CO2	CAP CER 10UF 10V 10% X5R 1206	Murata	GRM31CR61A106KA01L	490-1820-2-ND
4	1	CBST	CAP CER 0.015UF 50V 10% X7R 0603	Murata	GRM188R71H153KA01D	490-1514-1-ND
5	1	D1	DIODE SCHOTTKY 60V 2A PMDU	ROHM	RB060M-60TR	RB060M-60CT-ND
6	1	SW1	SWITCH SLIDE SPDT 30V.2A PC MNT	E-Switch	EG1218	EG1903-ND
7	1	R1	RES 68.0K OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-0768KL	311-68.0KCRCT-ND
8	1	R2	RES 12.0K OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-0712KL	311-12.0KCRCT-ND
9	1	LX	INDUCT 10uH SOD-106	TOKO	DEM4518C 1235AS-H-100M	-
10	1	U1	5V, 0.5A Step-down SW Reg w/ FET	ROHM	BD9G101G	-