

DESCRIPTION

The EV2467DN-00A is an evaluation board for the MP2467, a high frequency step-down regulator with an integrated power MOSFET.

The MP2467 integrates a 150mΩ MOSFET that provides 2.5A load current over a wide operating input voltage of 6V to 36V.

Current mode control provides fast transient response and eases loop stabilization. An internal soft-start prevents inrush current at turn-on.

The MP2467 is available in an 8-pin SOIC package.

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	6 – 36	V
Output Voltage	V_{OUT}	3.3	V
Output Current	I_{OUT}	2.5	A

FEATURES

- 2.5A Output Current
- Wide 6V to 36V Operating Input Range
- Adjustable Output from 0.8V to 30V
- Fully Assembled and Tested

APPLICATIONS

- Game Machines
- Automotive Systems
- Industrial Power Systems
- Distributed Power Systems
- Printer Systems
- Battery Powered Systems

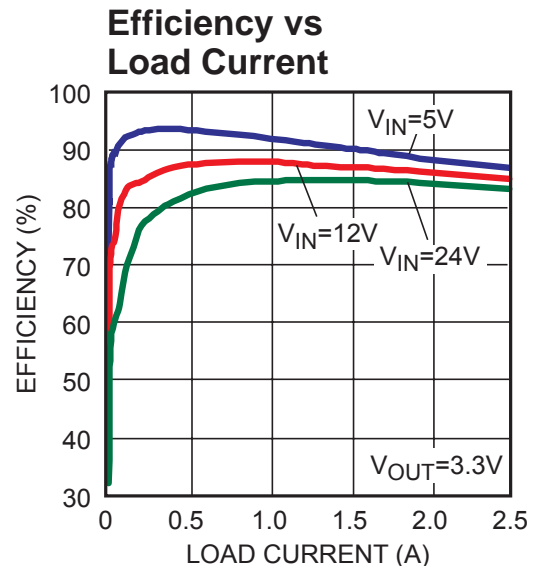
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EV2467DN-00A EVALUATION BOARD

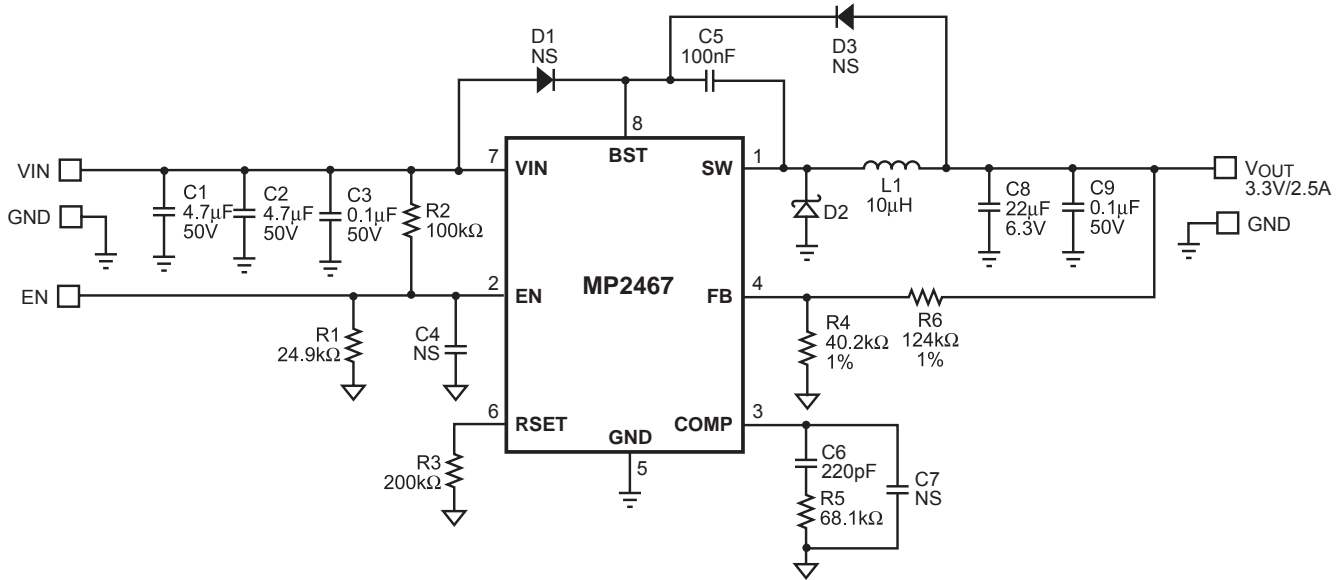


(L x W x H) 1.8" x 1.8" x 0.4"
(4.6cm x 4.6cm x 1.0cm)

Board Number	MPS IC Number
EV2467DN-00A	MP2467DN



EVALUATION BOARD SCHEMATIC



EV2467DN-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Part Number
2	C1, C2	4.7 μ F	Ceramic Cap., 50V, X7R	1210	Murata	GRM32ER71H475KA88L
2	C3, C9	0.1 μ F	Ceramic Cap., 50V, X7R	805	TDK	C2012X7R1H104K
2	C4, C7		Not Stuffed			
1	C5	100nF	Ceramic Cap., 50V, X7R	603	TDK	C1608X7R1H104K
1	C6	220pF	Ceramic Cap., 50V, C0G	603	TDK	C1608C0G1H221J
1	C8	22 μ F	Ceramic Cap., 6.3V, X5R	1210	TDK	C3225X5R0J226M
1	R1	24.9k Ω	Film Res., 1%	603	Panasonic	ERJ-3EKF2492V
1	R2	100k Ω	Film Res., 1%	603	Panasonic	ERJ-3GEYJ104V
1	R3	200k Ω	Film Res., 1%	603	Panasonic	ERJ-3GEYJ204V
1	R4	40.2k Ω	Film Res., 1%	603	Panasonic	ERJ-3EKF4022V
1	R5	68.1k Ω	Film Res., 1%	603	Panasonic	ERJ-3EKF6812V
1	R6	124k Ω	Film Res., 1%	603	Panasonic	ERJ-3EKF1243V
2	D1, D3		Not Stuffed			
1	D2		Diode Schottky, 40V, 3A	SMA	Diodes Inc	B340A-13-F
1	L1	10 μ H	Inductor, 4A	SMD	Sumida	CDRH8D43-100
1	U1		Step-Down Regulator	SO8	MPS	MP2467DN

PRINTED CIRCUIT BOARD LAYOUT

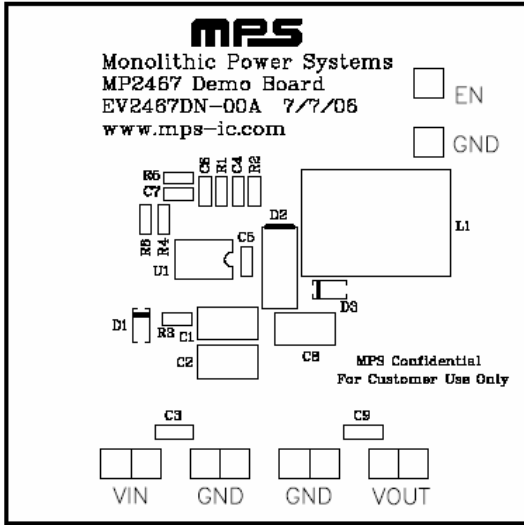


Figure 1—Top Silk Layer

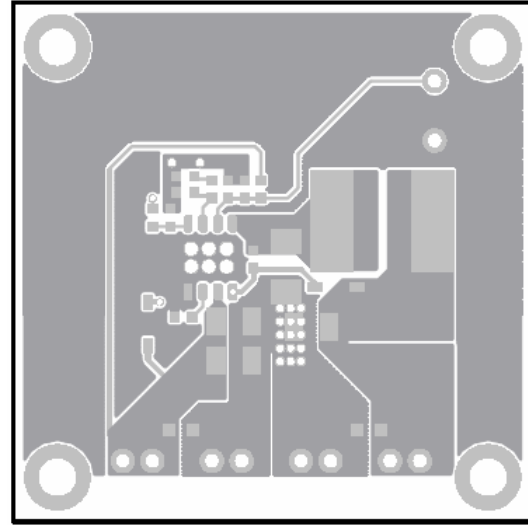


Figure 2—Top Layer

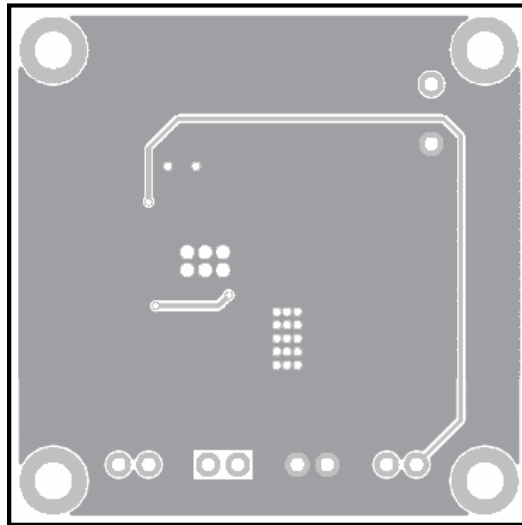


Figure 3—Bottom Layer

QUICK START GUIDE

1. Connect the positive and negative terminals of the load to the VOUT and GND pins, respectively.
2. Preset the power supply output to between to 12V, then turn it off.
3. Connect the positive and negative terminals of the power supply output to the VIN and GND pins, respectively.
4. Turn the power supply on. The EV2467DN will automatically startup.
5. To use the Enable function, apply a digital input to the EN pin. Drive EN higher than 1.6V to turn on the regulator, drive EN less than 1.2V to turn it off.
6. An input under voltage lockout (UVLO) function is implemented by the addition of a resistor divider R1 and R2. The EN threshold is 1.2V (falling edge), so V_{IN} UVLO threshold is $1.2V \times \left(1 + \frac{R2}{R1}\right)$. It is preset to 6V on this board.
7. Use R4 and R6 to set the output voltage with $V_{FB} = 0.8V$. For $R4 = 40.2k\Omega$, R6 can be determined by: $R6 = 50.25 \times (V_{OUT} - 0.8)(k\Omega)$. Follow the Application Information section in the device datasheet to recalculate the compensation, inductor and output capacitor values when output voltage is changed.

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