EV2359DJ-00B

1.2A, 24V, 1.4MHz Step-Down Converter Evaluation Board in TSOT23-6

The Future of Analog IC Technology

DESCRIPTION

The EV2359DJ-00B is the evaluation board for the MP2359, a monolithic non-synchronous step-down switch mode converter with an integrated power MOSFET.

The MP2359 achieves 1.2A continuous output current over a wide input supply range with excellent load and line regulation.

Current mode operation provides fast transient response and eases loop stabilization.

Fault condition protection includes cycle-by-cycle current limiting and thermal shutdown.

The MP2359 is available in TSOT23-6 and SOT23-6 packages.

FEATURES

- 1.2A Output Current
- Wide 4.5V to 24V Operating Input Range
- Output Adjustable from 0.8V to 15V
- Fully Assembled and Tested

APPLICATIONS

- Cable Set-Top Box/Digital Video Recorders
- xDSL Modems/Routers
- Pre-Regulator for Linear Regulators

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ELECTRICAL SPECIFICATIONS

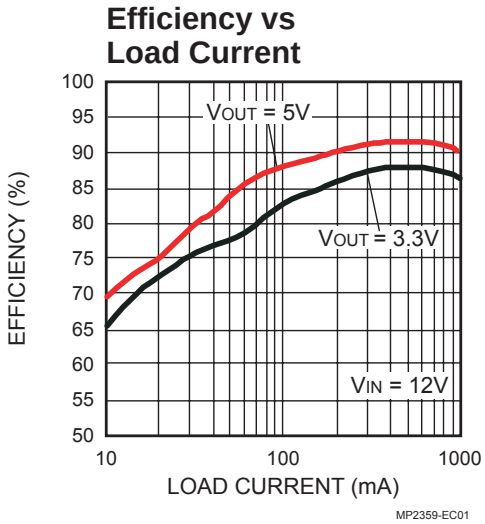
Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	4.5 – 24	V
Output Voltage	V_{OUT}	3.3	V
Output Current	I_{OUT}	1	A

EV2359DJ-00B EVALUATION BOARD



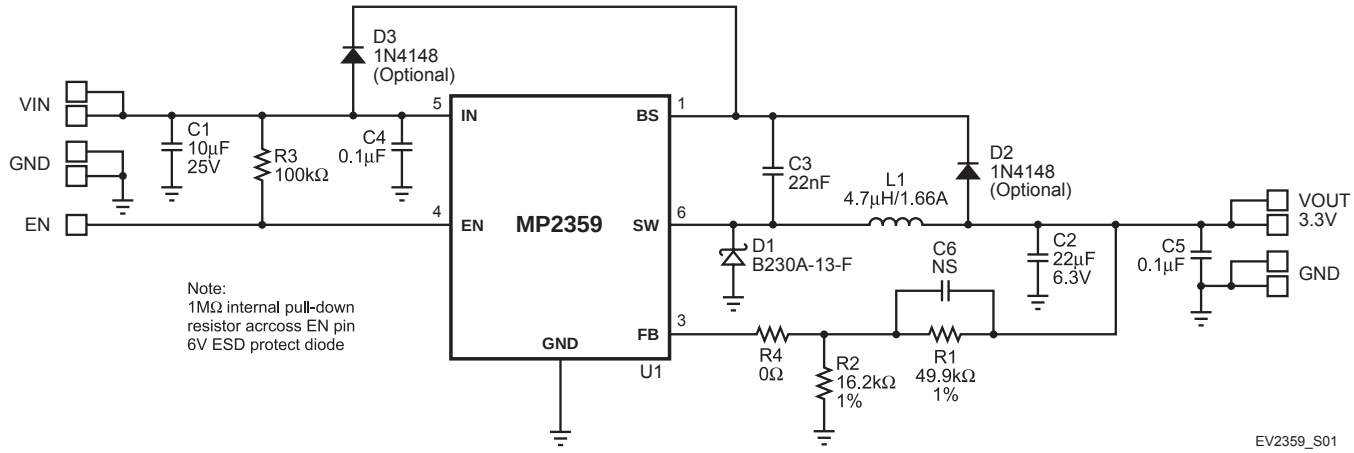
(L x W x H) 2.1" x 1.9" x 0.4"
(5.3cm x 4.8cm x 1.0cm)

Board Number	MPS IC Number
EV2359DJ-00B	MP2359DJ



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EVALUATION BOARD SCHEMATIC



EV2359DJ-00B BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
2	C4, C5	0.1µF	Ceramic Capacitor, 50V, X7R	0603	TDK	C1608X7R1H104K
1	C1	10µF	Ceramic Capacitor, 25V, X5R	1206	Murata	GRM31CR61E106KA12L
1	C3	22nF	Ceramic Capacitor, 50V, X7R	0603	TDK	C1608X7R1H223K
1	C2	22µF	Ceramic Capacitor, 6.3V, X5R	1206	TDK	C3216X5R0J226M
1	C6		Not Stuffed, Optional			
1	D1		Diode Schottky, 40V, 1A	SOD-123	Diodes Inc.	1N5819HW-7
2	D2, D3		Not Stuffed, Optional			
1	L1	4.7µH	Inductor, 1.66A, D63LCB	SMD	Toko	A921CY-4R7M
1	R1	49.9kΩ	Resistor, 1%	0603	Panasonic	ERJ-3EKF4992V
1	R2	16.2kΩ	Resistor, 1%	0603	Panasonic	ERJ-3EKF1622V
1	R3	100kΩ	Resistor, 5%	0603	Panasonic	ERJ-3GEYJ104V
1	R4	0Ω	Resistor, 5%	0603	Panasonic	ERJ-3GEY0R00V
1	U1		DC/DC Converter	TSOT23-6	MPS	MP2359DJ

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PRINTED CIRCUIT BOARD LAYOUT

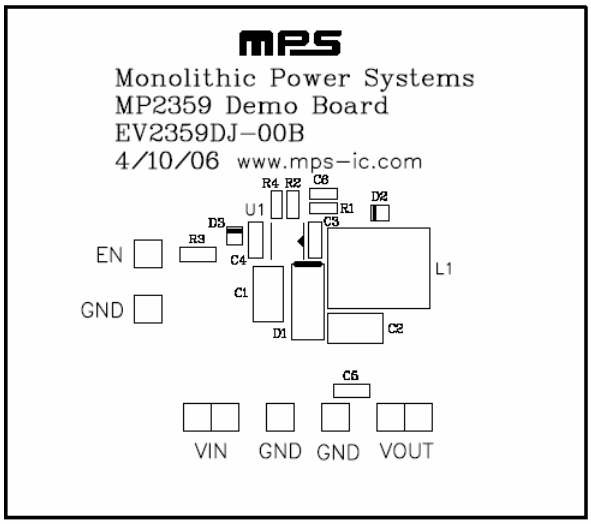


Figure 1—Top Silk Layer

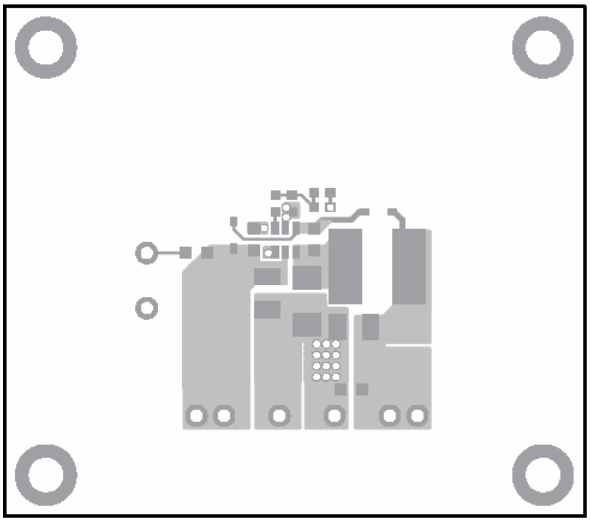


Figure 2—Top Layer

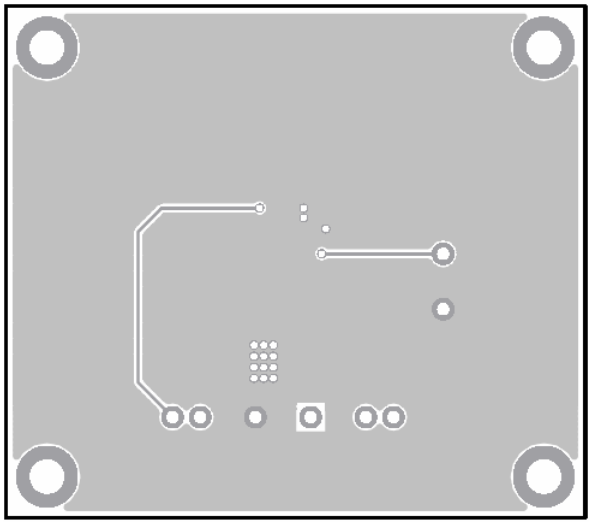


Figure 3—Bottom Layer

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QUICK START GUIDE

1. Connect the positive terminal of the load to VOUT pin, and the negative terminal of the load to GND pin.
2. Preset the power supply output to 4.5V – 24V and turn off the power supply.
3. Connect the positive terminal of the power supply output to the VIN pin and the negative terminal of the power supply output to the GND pin.
4. Turn the power supply on. The board will automatically startup.
5. To use the Enable function, apply a digital input to EN pin. Drive EN higher than 1.2V to turn on the regulator, drive EN less than 0.4V to turn it off.

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