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EV2670DQ-00A Battery Charger Protection Circuit Evaluation Board

DESCRIPTION

The EV2670DQ-00A is an evaluation board for the MP2670. EV2670DQ-00A includes mainly two parts: MP2670 protection circuit and MP2602 charging system. The output of MP2670 is the input of MP2602.

By integrating high voltage input protection into the charger IC, the MP2670 can tolerate an input surge up to 30V.

The MP2670 features input over voltage protection (OVP), battery voltage over voltage protection (BOVP), and over charge current protection (OCP). Additionally, MP2670 also monitors its own internal temperature and provides thermal protection (OTP). The device also provides fault indication. Any protection event can be indicated by customer.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	5	V
Limit Current (MP2670)	I_{LIM}	500	mA
Charge Current (MP2602)	I_{CHG}	300	mA

FEATURES

- Input Surge up to 30V
- Input Over voltage protection in 1us.
- Proprietary Battery Over-Voltage Protection
- Programmable Charge Current Protection Limit Value.
- Temperature Monitoring and Protection
- Fault Indication
- Enable Input

APPLICATIONS

- Cell Phones
- MP3 Players
- Smart Phones
- PDAs
- Digital Cameras
- Desktop Chargers

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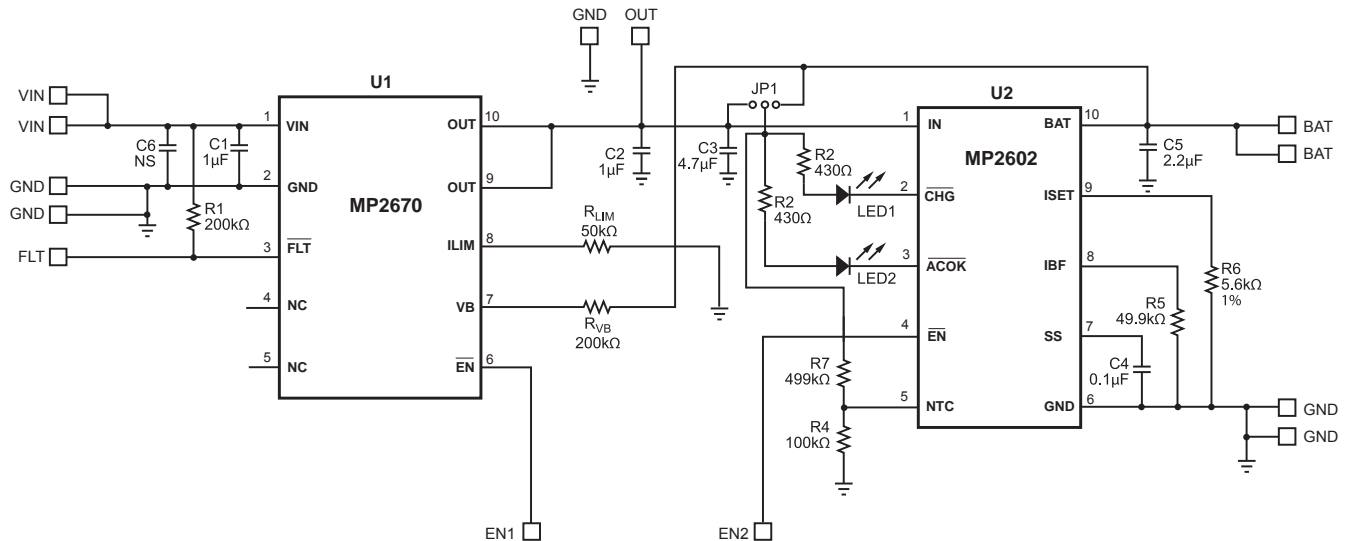
EV2670DQ-00A EVALUATION BOARD



(6.6cm x 4.8cm x 0.9cm))

Board Number	MPS IC Number
EV2670DQ-00A	MP2670DQ

EVALUATION BOARD SCHEMATIC



EV2670DQ-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
1	C1	1μF	Ceramic Cap., 50V, X7R	SM0805	Murata	GRM21BR71H105KA12L
1	C2	1μF	Ceramic Cap., 25V, X7R	SM0805	TDK	C2012X7R1E105K
1	C3	4.7μF	Ceramic Cap., 25V, X7R	SM1206	TDK	C3216X7R1E475K
1	C4	0.1μF	Ceramic Cap., 16V, X7R	SM0603	Murata	GRM188R71C104KA01D
1	C5	2.2μF	Ceramic Cap., 25V, X7R	SM1210	TDK	C3225X7R1E225K
1	C6	NS	Not Stuffed			
2	R1, R _{VB}	200kΩ	Film Res., 5%	SM0603	Yageo	RC0603JR-07200KL
2	R2, R3	430Ω	Film Res., 5%	SM0603	Yageo	RC0603JR-07430RL
1	R4	100kΩ	Film Res., 1%	SM0603	Yageo	RC0603FR-07100KL
1	R5	49.9kΩ	Film Res., 1%	SM0603	Yageo	RC0603FR-0749K9L
1	R6	5.62kΩ	Film Res., 1%	SM0603	Yageo	RC0603FR-075K62L
1	R7	499kΩ	Film Res., 1%	SM0603	Yageo	RC0603FR-07499KL
1	R _{LIM}	51.1kΩ	Film Res., 1%	SM0603	Yageo	RC0603FR-0751K1L
1	LED1	CHG	LED Red, Surface Mount	SM0805	BRIGHT LED	BL-HUF35A-TRB
1	LED2	ACOK	LED Green, Surface Mount	SM0805	BRIGHT LED	BL-HGB35A-TRB
1	U1		Charge Protection Device	QFN10	MPS	MP2670DQ(FA81-9365R0-H)
1	U2		Charge Protection Device	QFN10	MPS	MP2602DQ

PRINTED CIRCUIT BOARD LAYOUT

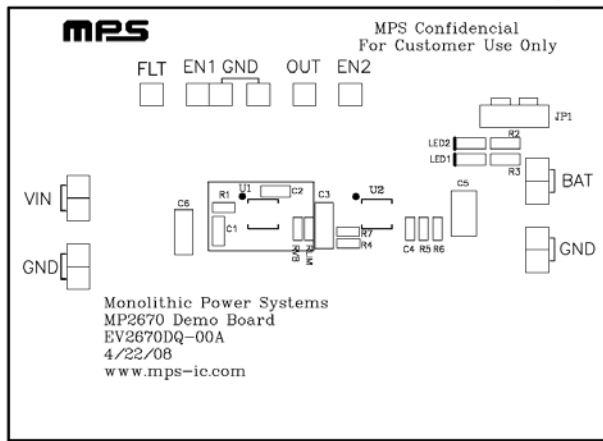


Figure 1—Top Silk Layer

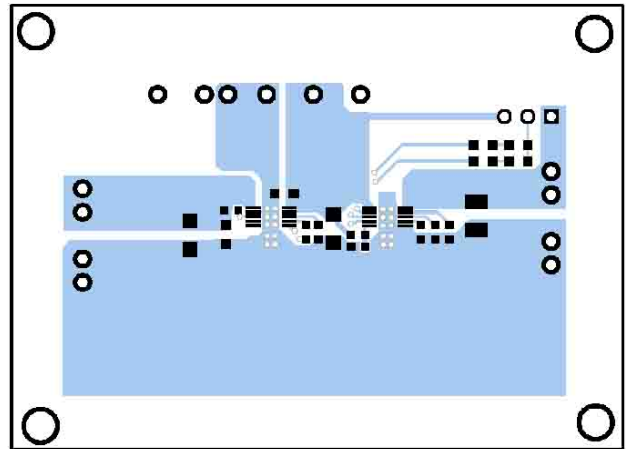


Figure 2—Top Layer

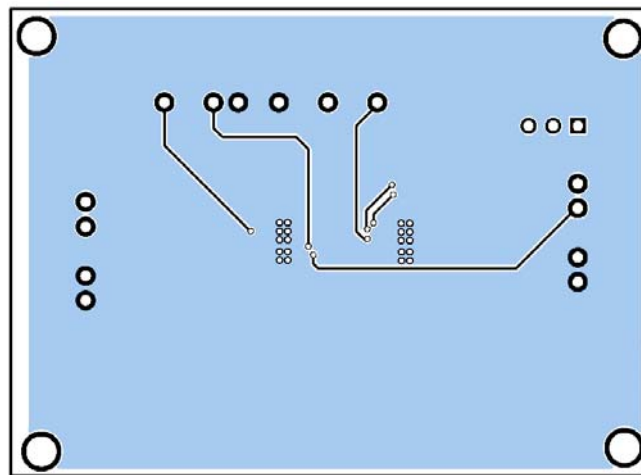


Figure 3—Bottom Layer