

DESCRIPTION

The EV2615A-Q-00A is an evaluation board for MP2615A, a switching charger for 1- or 2- cell lithium-Ion or lithium-Polymer battery packed with built-in power MOSFETs. It's able to achieve up to 2A charge current which can be programmed via an accurate sense resistor over the whole input range.

MP2615A regulates the charge current and full battery voltage using two control loops to realize high accuracy constant current (CC) charge and constant voltage (CV) charge.

Thanks to the constant-off-time (COT) mode control, 99% duty cycle can be achieved when battery voltage is close to the input voltage to keep the charge current always at a relative high level.

Battery temperature and charging status are always monitored for each condition. Two status monitor output pins are provided to indicate the battery charging status and input power status. The MP2615A also features internal reverse blocking protection.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	4.75 to 18	V
Battery Voltage	V_{BATT}	0 to 8.7	V
Charge Current	I_{CHG}	2	A

FEATURES

- 4.75V to 18V Operating Input Voltage
- Up to 99% Duty Cycle Operation
- Up to 2A Programmable Charging Current
- $\pm 0.75\%$ Full Battery Voltage Accuracy
- 4.35V/Cell and 4.2V/Cell Selection for Full Battery Voltage
- Full Integrated Power Switches
- Internal Loop Compensation
- No External Reverse Blocking Diode Required
- Preconditioning for Fully Depleted Battery
- Charging Operation Indicator
- Programmable Safety Timer
- Thermal Shutdown Protection
- Cycle-by-Cycle Over Current Protection
- Battery Temperature Monitor and Protection

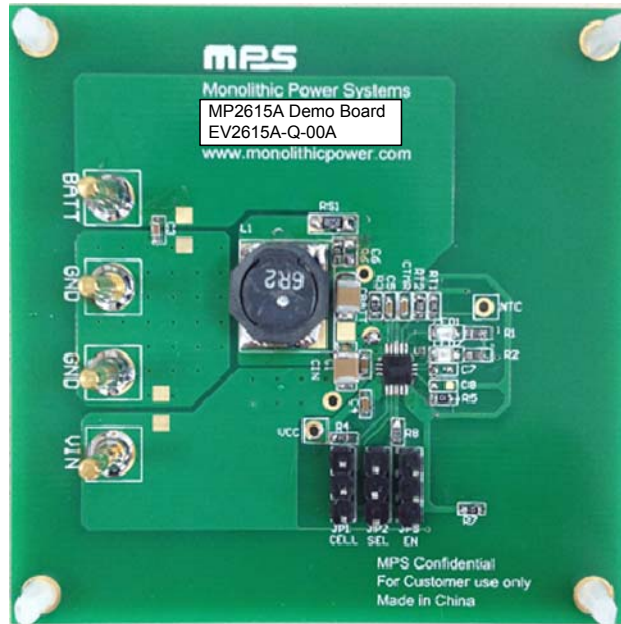
APPLICATIONS

- Smart Phones
- Portable Hand-Held Solutions
- Portable Media Players

All MPS parts are lead-free, halogen free, and adhere to the RoHS directive. For MPS green status, please visit MPS website under Quality Assurance.

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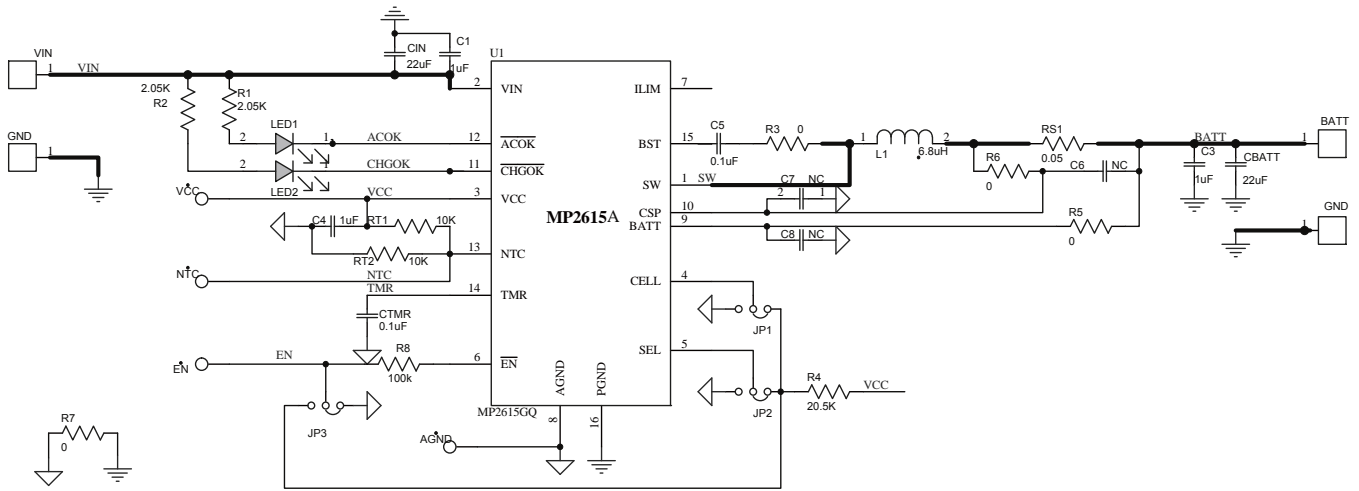
EV2615A-Q-00A EVALUATION BOARD



(L x W x H) 2.48" x 2.48" x 0.063"
(6.3cm x 6.3cm x 0.16cm)

Board Number	MPS IC Number
EV2615A-Q-00A	MP2615AGQ

EVALUATION BOARD SCHEMATIC



EV2615A-Q-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
3	C1, C3, C4,CTM R	1 μ F	Ceramic Capacitor;25V;X7R;	0603	muRata	GRM188R71E105KA12D
3	C6, C7, C8	NC				
1	C5	0.1 μ F	Ceramic Capacitor;16V;X7R;0 603	0603	muRata	GRM188R71C104KA01D
2	RT1, RT2	10	Film Resistor;1%	0603	Yageo	RC0603FR-0710KL
2	R1, R2	2.05k	Film Resistor;1%;	0603	Yageo	RC0603FR-072K05L
1	R4	20.5k	Film Resistor;1%;	0603	Yageo	RC0603FR-0720K5L
4	R3, R5, R6, R7	0	Film Resistor;5%;	0603	Yageo	RC0603JR-070RL
5	R8	100k	Film Resistor;1%;	0603	Yageo	RC0603FR-07100KL
1	LED2	BL- HUF35A- TRB	LED;RED;	0805	BRIGHT LED	BL-HUF35A-TRB
1	LED1	BL- HGB35A- TRB	LED;GREEN;	0805	BRIGHT LED	BL-HGB35A-TRB
2	CBATT, CIN	22 μ F	Ceramic Capacitor;25V;X7R	1210	muRata	GRM32ER71E226KE15L
1	RS1	0.05	Film Resistor;1%;1/4W	1206	Yageo	RL1206FR-070R05L
1	L1	6.2 μ H	Inductor;6.2uH;24m; 4.3A	SMD	Würth	7440660062
1	U1		MPS Switching Charger	FCQFN1 6 (3mmx3 mm)	MPS	MP2615AGQ
2	BATT, VIN		Connector			
3	JP1, JP2, JP3		Connector			

PRINTED CIRCUIT BOARD LAYOUT

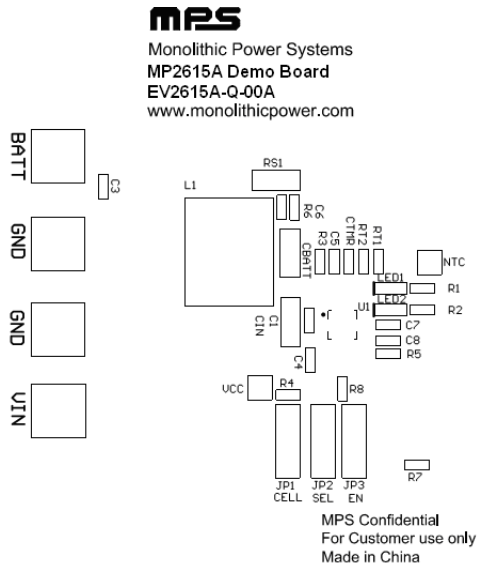


Figure 1— Top Silk Layer

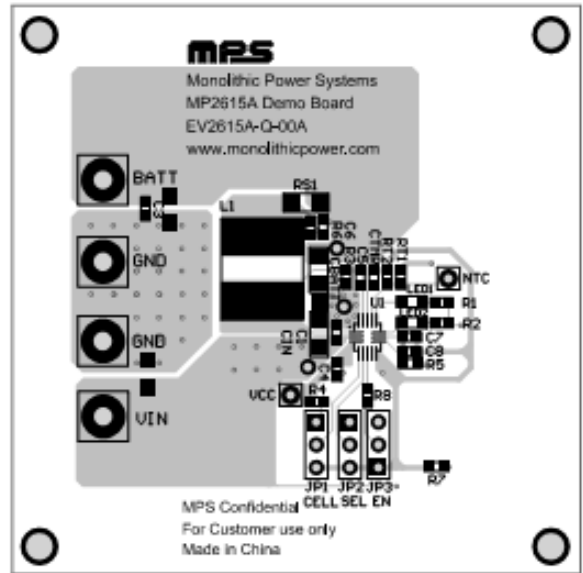


Figure 2—Top Layer

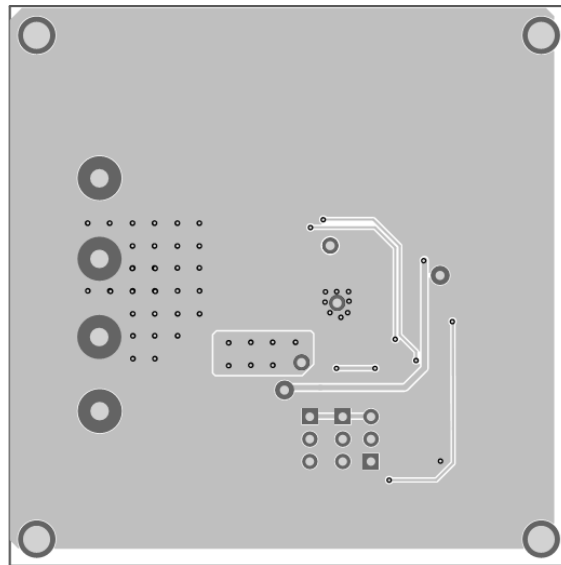


Figure 3—Bottom Layer