

DESCRIPTION

The MP2631 is a linear, high performance single cell Li-Ion or Li-Polymer battery charger with 10mA LDO and on-chip input polarity reverse protection. By integrating high voltage input protection into the charger IC, the MP2631 can tolerate an input surge up to 28V and input surge down to -16V.

The MP2631 features constant current (CC) and constant voltage (CV) charging modes with programmable charge current (200mA to 1A) reverse current blocking and trickle charge.

The other features include the internally set battery full threshold (10% of the programmed charge current) and auto-recharge.

The OVP circuitry will automatically disconnect both charger and LDO from input when VIN exceeds 7V.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	4.5V – 6.5V	V
Charge Current	I_{CHG}	0.2-1.0	A
LDO	V_O	5	V

FEATURES

- Input Surge Up to 28V
- 5V LDO output
- Wide input operating range 3.0V – 7V
- Programmable Charge Current: 200mA to 1A
- Termination and auto-recharge
- 0.75% VBATT Accuracy over Temperature
- $1\mu A$ Battery Reverse Current
- Automatic die temperature limiting
- Fault and Charge Status Indicators
- Soft-Start to limit inrush current
- Tiny 3mm x 3mm QFN Package

APPLICATIONS

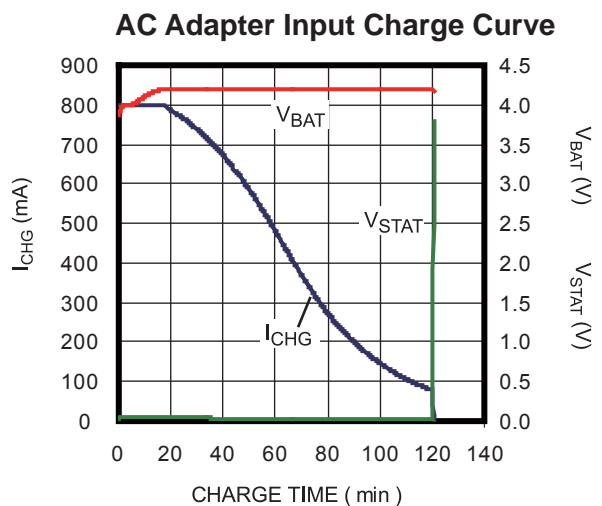
- Cell Phones
- Digital Cameras
- Smart Phones
- PDAs
- MP3 Players

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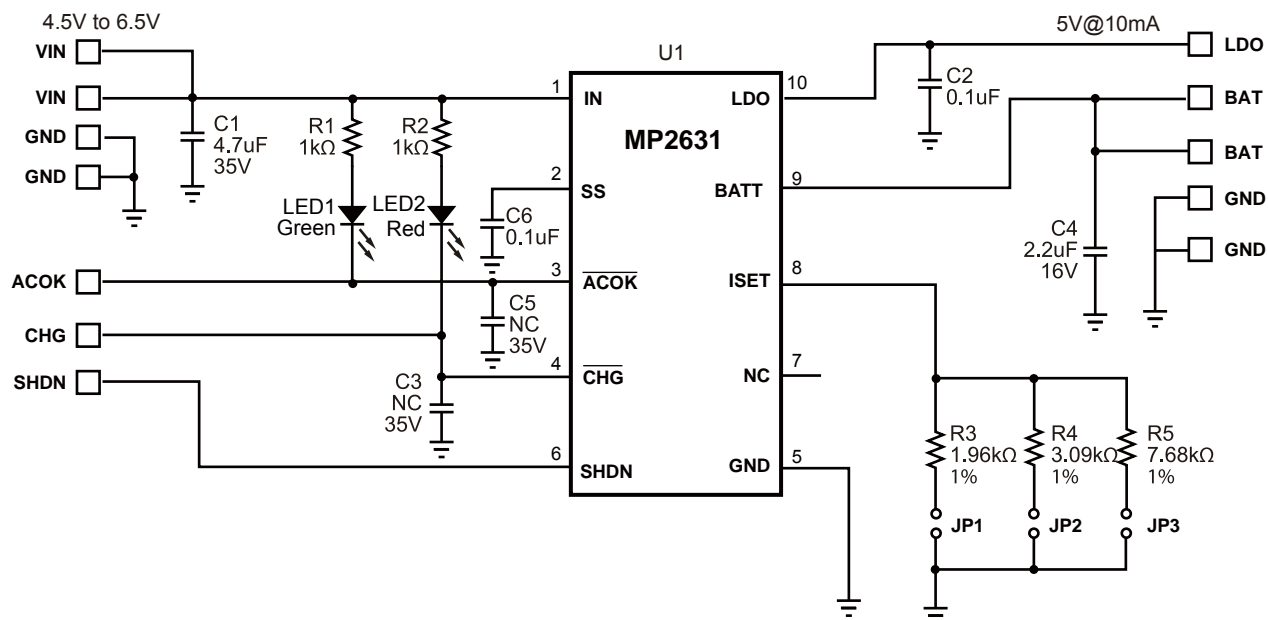
EV2631DQ-00A EVALUATION BOARD



Board Number	MPS IC Number
EV2631DQ-00A	MP2631DQ



EVALUATION BOARD SCHEMATIC



EV2631DQ-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
1	C1	4.7uF	Ceramic Cap., 35V, X7R	1210	Murata	GRM32ER71H475KA88L
2	C2, C6	0.1uF	Ceramic Cap., 16V, X7R	0603	TDK	C1608X7R1C104K
2	C3, C5	NS		0603		
1	C4	2.2uF	Ceramic Cap., 16V, X7R	1210	Murata	GRM32MR71C225MC01L
3	JP1, 2, 3		3x2-Pin Connector Header, 0.100"		Molex	10-89-1601
1	LED1		Led Green, Surface Mount	0603	Lumex	SML-LX0603GW-TR
1	LED2		Led Red, Surface Mount	0603	Lumex	SML-LX0603IW-TR
2	R1, R2	1kΩ	Film Res., 5%	0603	Yageo	9C06031A1001FKHFT
1	R3	1.96kΩ	Film Res., 1%	0603	Yageo	9C06031A1961FKHFT
1	R4	3.09kΩ	Film Res., 1%	0603	Yageo	9C06031A3091FKHFT
1	R5	7.68kΩ	Film Res., 1%	0603	Yageo	9C06031A7681FKHFT
1	R6	NS	Not Stuffed	0603		
1	U1		Linear Charger	QFN10	MPS	MP2631DQ

PRINTED CIRCUIT BOARD LAYOUT

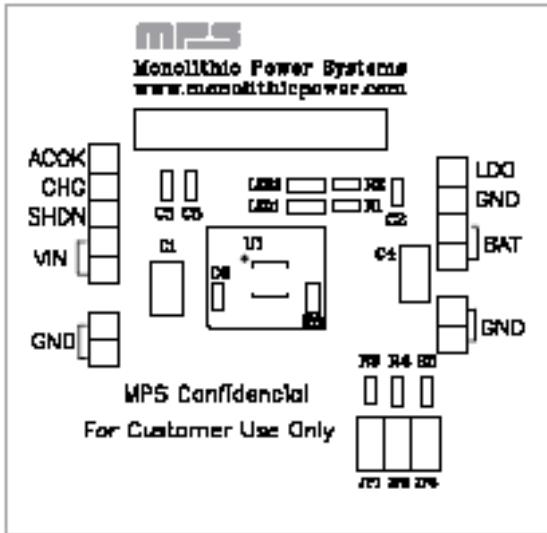


Figure 1—Top Silk Layer

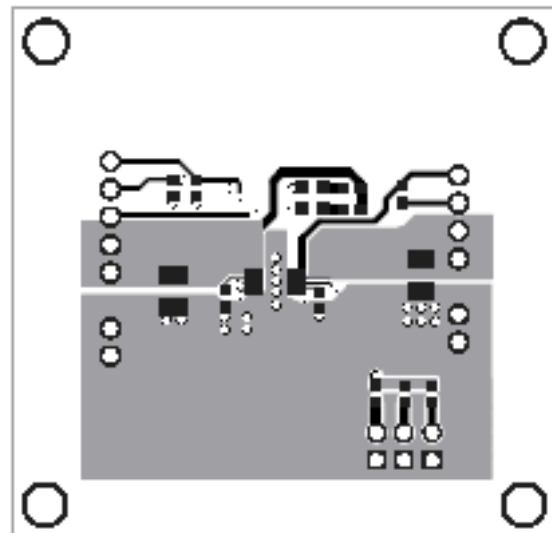


Figure 2—Top Layer

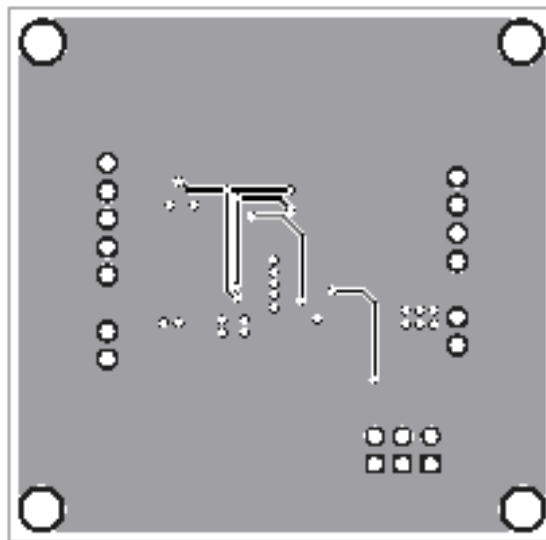


Figure 3—Bottom Layer