EV6902A+MP6907-S_J-00A

High Efficiency Synchronous Rectification EV Board

The Future of Analog IC Technology

DESCRIPTION

The EV6902A+MP6907-S_J-00A is an evaluation board for the MP6902A and MP6907. It is configured to provide synchronous rectification solution for flyback.

MP6902A and MP6907 features a synchronous gate output which enables high efficiency rectification by replacing the schottky rectifier with a low Ron MOSFET. MP6907 has the wider VDD range and stronger driving capability than MP6902A.

ELECTRICAL SPECIFICATIONS

Parameter		Symbol	Value	Units
Supply Voltage	MP6902A	V_{DD}	8–24	V
	MP6907		4.2-35	

FEATURES

- Works with both Standard and Logic Level FETS
- Compatible with Energy Star, 1W Standby Requirements
- ~70mV Forward Regulation Voltage
- Max 300kHz Switching Frequency
- <300μA/150μA (MP6902A/MP6907) Quiescent Current at Light Load Mode
- Supports CCM, CrCM and DCM Operation Mode
- Supports High-side and Low-side Rectification

APPLICATIONS

- Industrial Power Systems
- Distributed Power Systems
- Battery Powered Systems

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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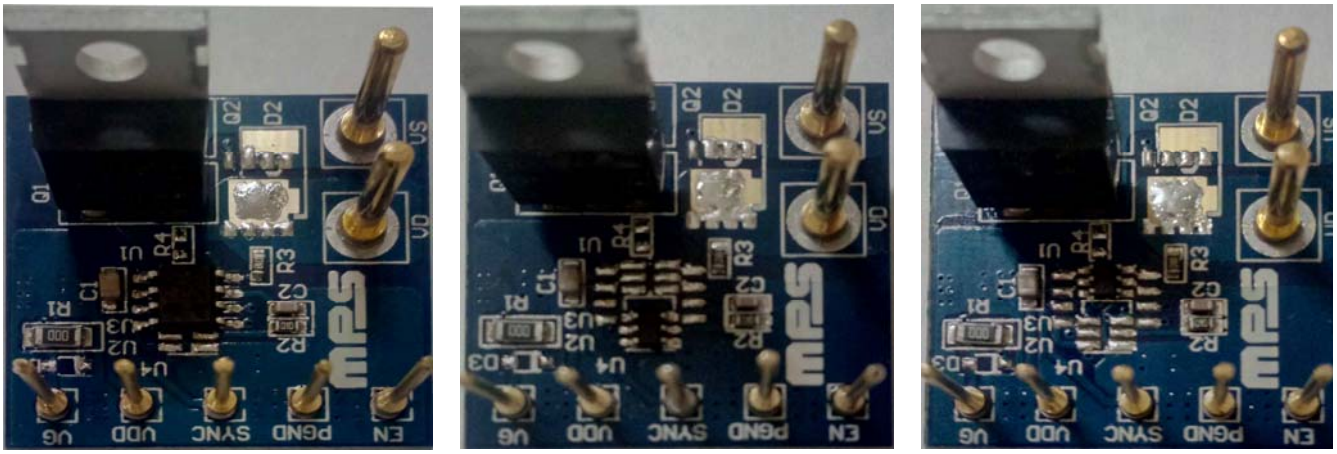
EV6902A+MP6907-S_J-00A EVALUATION BOARD

MP6907GS **MP6907GJ** **MP6902AGJ**



(L x W x H) 1.14" x 1.14" x 0.6"

2.9cm x 2.9cm x 1.4cm

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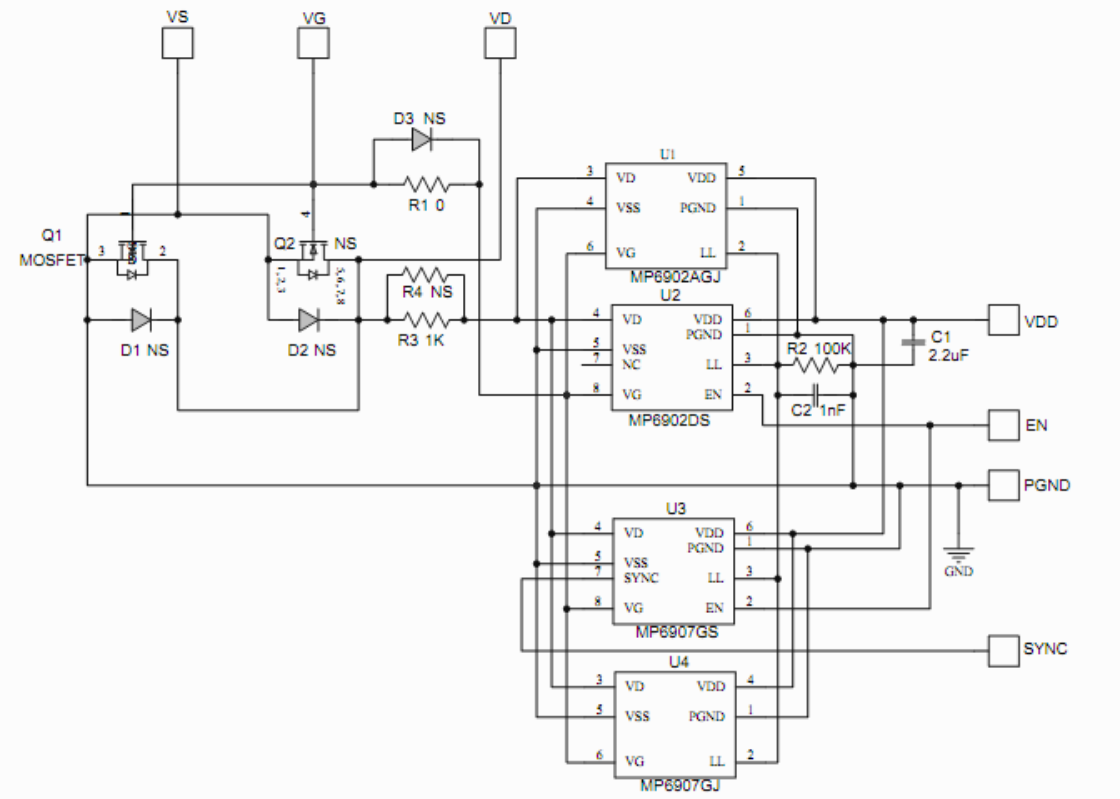
EVALUATION BOARD SCHEMATIC



EV6902A+MP6907-S_J-00A BILL OF MATERIALS

Qty	RefDes	Value	Description	Package	Manufacturer	Manufacturer P/N
1	C1	2.2uF	Ceramic Cap, 25V, X7R	0805	muRata	GRM21BR71E225KA73L
1	C2	1nF	Ceramic Cap, 50V, X7R	0603	TDK	C1608X7R1H102K
1	R1	0	Film Res., 5%	0603	Yageo	RC0603JR-070RL
1	R2	100k	Film Res., 1%	0603	Yageo	RC0603FR-07100KL
1	R3	1k	Film Res., 1%	0603	Royaohm	0603F1001T5E
0	R4	NS				
1	Q1	MOSFET	N-CH 100V 8mΩ	TO220	APEC	AP85T10GP
0	Q2	NS		PowerPAK		
0	D1	NS		SMB		
0	D2	NS		TO220		
1	D3	NS		SOD323		
1	U1	MP6902AGJ	SR Controller	TSOT23-6	MPS	MP6902AGJ R14
1	U2	MP6902DS	NS	SO-8	MPS	
1	U3	MP6907GS	SR Controller	SO-8	MPS	MP6907GS R2
1	U4	MP6907GJ	SR Controller	TSOT23-6	MPS	MP6907GJ R2

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PRINTED CIRCUIT BOARD LAYOUT

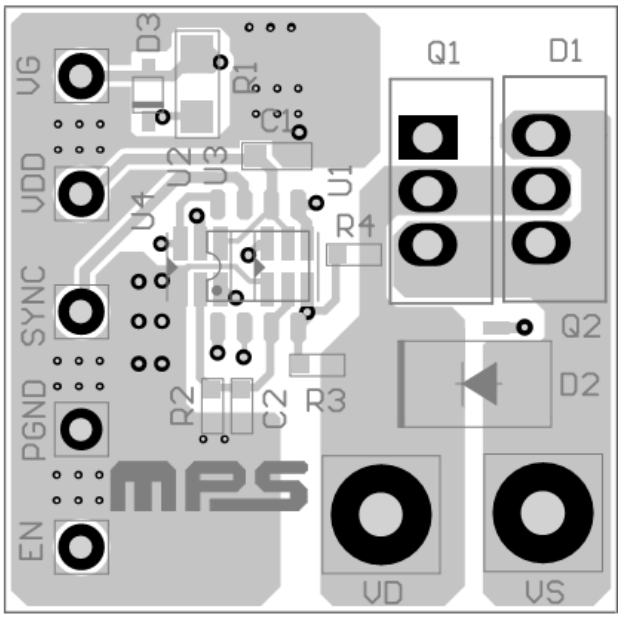

Figure 1—Top Silk Layer

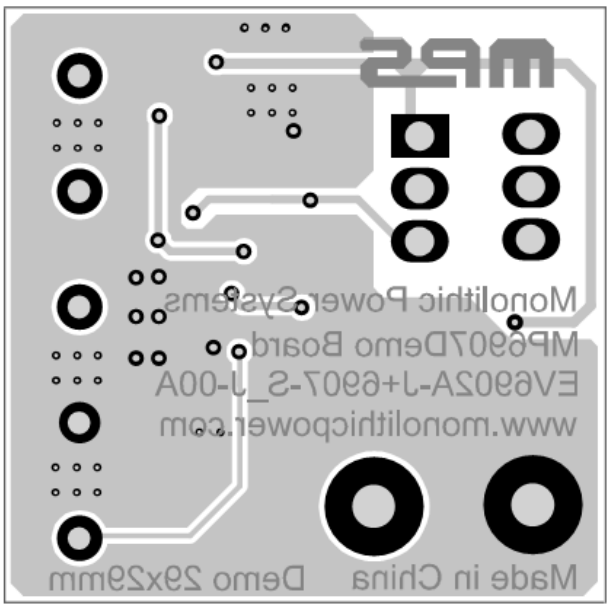

Figure 2—Top Layer

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QUICK START GUIDE

1. Connect the positive and negative terminals of the output or the auxiliary winding to the VDD and PGND pins, respectively.
2. Connect the Drain and Source and Gate terminals of the synchronous power MOSFET to the VD and VS and VG pins, respectively (There is already a 100V power MOSFET Q1 connected on the board, if the customer do not want to use this MOS as synchronous MOSFET, you can remove this Q1 and use your own MOSFET instead).
3. Preset the input voltage of flyback converter to the normal input range, and then turn off the power supply.
4. Turn the power supply on. The IC will automatically startup and drive the synchronous MOSFET Q1 to work as an ideal diode.

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