

**DESCRIPTION**

The EV6924-S-00A is an evaluation board for the MP6924GS or MP6924AGS. It is configured to provide synchronous rectification solution for LLC topology.

MP6924GS features dual synchronous gate outputs which enables high efficiency rectification by replacing the schottky rectifier with a low Ron MOSFET.

**ELECTRICAL SPECIFICATIONS**

Parameter	Symbol	Value	Units
Vcc Voltage	V <sub>cc</sub>	4.2-35	V

**FEATURES**

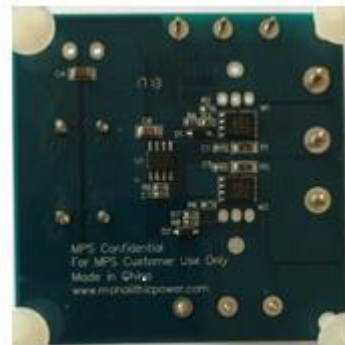
- Works with both Standard and Logic Level MOSFETs
- Compatible with Energy Star
- Fast Turn-Off Total Delay of 35ns
- Wide 4.2~35V V<sub>DD</sub> Operating Range
- 175uA Low quiescent Current in Light-Load Mode
- Supports CCM, CrCM and DCM Operation Mode
- Supports High-side and Low-side Rectification
- Power Savings of Up to 1.5W in a Typical Notebook Adapter
- Available in a SOIC-8 Package

**APPLICATIONS**

- AC-DC Adapters
- PC Power Supplies
- LCD and LED TVs
- Isolated DC/DC Power Converters

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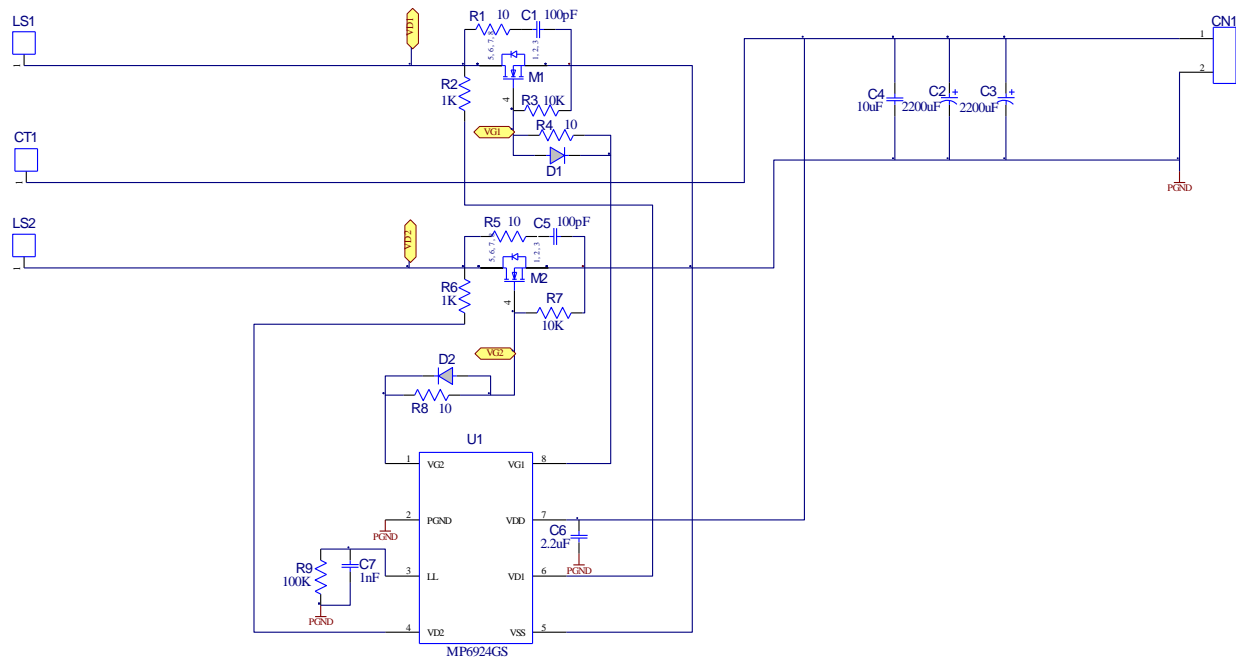
**EV6924DS-00A EVALUATION BOARD**



(L x W x H) 6.3cm x 6.3cm x 3cm

Board Number	MPS IC Number
EV6924-S-00A	MP6924GS

### EVALUATION BOARD SCHEMATIC



**EV6924DS-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Package	Manufacturer	Part Number
2	C1, C5	100pF	Ceramic Capacitor, 100V, C0G	0603	TDK	C1608C0G2A101J
2	C2, C3	2200uF	Electrolytic Capacitor, 35V	DIP	Rubycon	2200uF/35V Dia.16mm
1	C4	10uF	Ceramic Capacitor, 35V, X7R	1206	TDK	C3216X7R1V106K
1	C6	2.2uF	Ceramic Capacitor, 50V, X7R	1206	muRata	GRM31CR71H225KA88L
1	C7	1nF	Ceramic Capacitor, 50V, X7R	0603	muRata	GRM188R71H102KA01D
2	D1, D2		Diode;75V, 0.15A	SOD-123	Diodes	1N4148W
2	M1, M2	NS	N Channel Mosfet, 60V	TO-220		
			N Channel Mosfet, 60V	PowerPAK SO-8	Si7478DP	Si7478DP
2	R1, R5	10	Film Resistor, 5%	1206	Yageo	RC1206JR-0710R
2	R2, R6	1k	Film Resistor, 5%	0603	Royalohm	0603SAJ0102T5E
2	R3, R7	10k	Film Resistor, 5%	0603	Yageo	RC0603JR-0710KL
2	R4, R8	10	Film Resistor, 5%	0603	Royalohm	0603SAJ0100T5E
1	R9	100k	Film Resistor, 1%	0603	Yageo	RC0603FR-07100KL
1	U1		SR Controller	SO-8	MPS	MP6924GS
6	VD1,VD2,VS1, VS2,VG1,VG2		1.0mm 铜柱			
4			板子支柱			

### PRINTED CIRCUIT BOARD LAYOUT

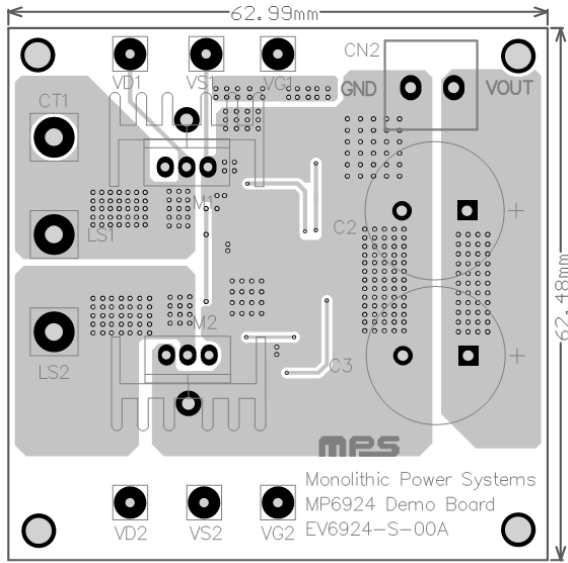


Figure 1—Top Layer

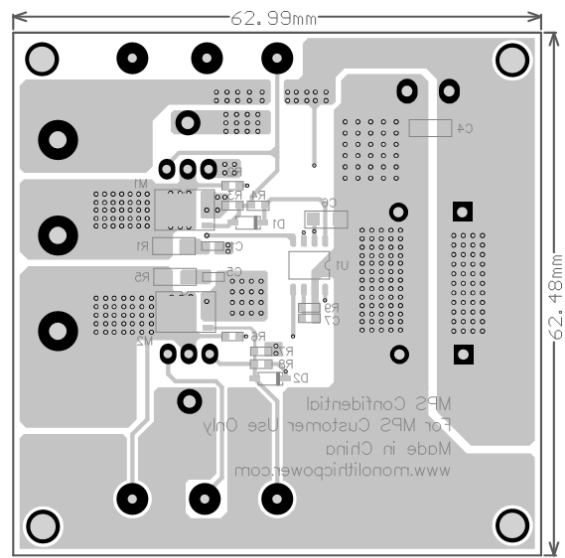
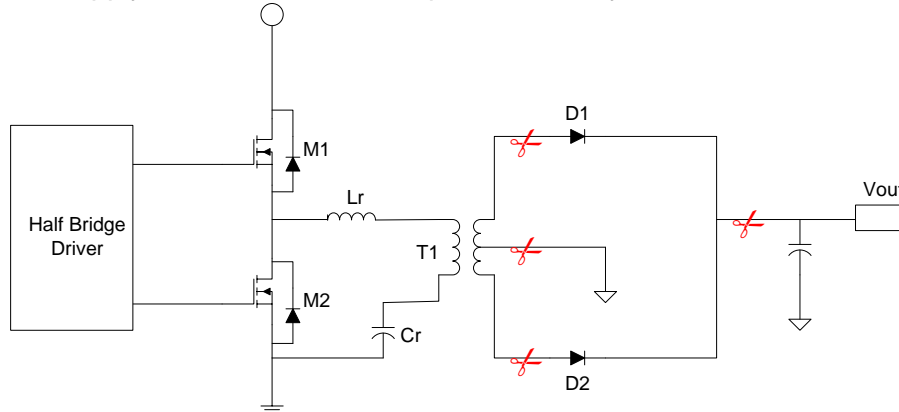


Figure 2—Bottom Layer

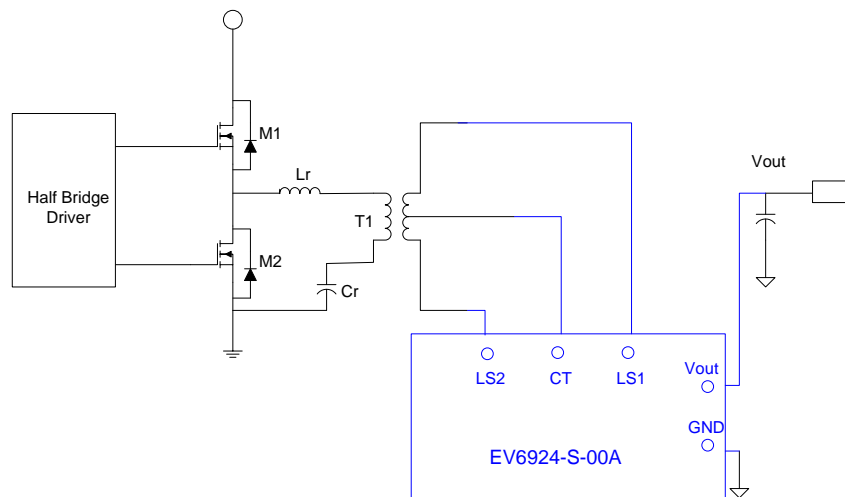
## QUICK START GUIDE

The demo board is intended to implement the synchronous rectifier in an LLC resonant converter with center-tap secondary winding. If the converters implement diode rectification,

1. Remove the diodes rectifiers from the board as the Fig.3 shows.
2. Connect the center-tap and other two secondary windings of transformer as the Fig.4 shows.
3. Connect the Vout and GND pins on MP6924 demo board as the Fig. 4 shows.
4. Turn the power supply on. The IC will start up automatically.



**Figure 3—How to disconnect the diode rectifiers**



**Figure 4—How to connect the EV6924-S-00A**

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