



1.2A, 36V, 1.4MHz

White LED Driver Buck/Boost Halogen Replacement Evaluation Board

DESCRIPTION

The EV2481-H-00A is a Buck converter evaluation board for the MP2481, a wide input step-down converter designed for driving high-power white LEDs with up to 1A capability.

The MP2481 is a 1.2A output, 36V white LED driver suitable for either step-down or inverting step-up/down applications. It achieves 1.2A peak output current over a wide input supply range with excellent load and line regulation. Current mode operation provides fast transient response and eases loop stabilization. Fault condition protection includes thermal shutdown, cycle-bycycle peak current limiting, open LED protection and output short circuit protection.

The MP2481 incorporates both DC and PWM dimming onto a single control pin. The separate input reference ground pin allows for direct enable and/or dimming control for a positive to negative power conversion.

The MP2481 requires a minimum number of readily available standard external components and is available in 8-pin MSOP8 packages.

FEATURES

- Wide 6V to 36V Operating Input Range for Step-Down Applications
- Drives one 5W White LED
- Up to 87% Efficiency
- Analog and PWM Dimming
- Cycle-by-Cycle Over Current Protection
- Thermal Shutdown Protection
- Open Strings Protection
- Input Over Voltage Protection
- Output short circuit protection

APPLICATIONS

General LED Illumination

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Units
Input Voltage	V _{IN}	6-36	V
# of WLEDs		1	
LED Current	I _{LED}	1	Α

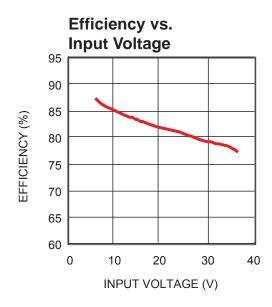
All MPS parts are lead-free and adhere to the RoHS directive. For MPS green status, please visit MPS website under Products, Quality Assurance page.

EV2481-H-00A EVALUATION BOARD



(L x W x H)2.0" x1.8" x0.2" (5.0cm x4.5cm x0.5cm)

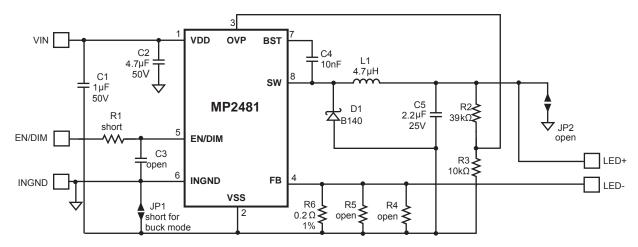
Board Number	MPS IC Number		
EV2481-H-00A	MP2481DH		



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EVALUATION BOARD SCHEMATIC

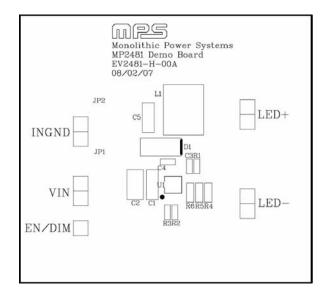


EV2481-H-00A BILL OF MATERIALS (BUCK)

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
1	C1	1µF	Ceramic Capacitor,50V,X7R	1206	TDK	C3216X7R1H105K
1	C2	4.7μF	Ceramic Capacitor,50V,X7R	1210	Murata	GRM32ER71H475KA88L
1	C3	open				
1	C4	10n	Ceramic Capacitor,50V,X7R	0603	TDK	C1608X7R1H103K
1	C5	2.2µF	Ceramic Capacitor,25V,X7R	1206	Murata	GRM31MR71E225KA93L
1	D1	B140	Diode Schottky	SMA	Diodes Inc.	B140-13-F
1	L1	4.7µH	Inductor 1.66A	D63LCB	TOKO	D63LCB-#A921CY-4R7M
1	R1	short				
1	R2	39kΩ	5%	0603	Any	
1	R3	10kΩ	5%	0603	Any	
2	R4,R5	open				
1	R6	$200 m\Omega$	1%	1206	CYNTEC	RL1632H-R200-FN
1	U1	MP2481	MPS WLED Driver	MSOP8EP	MPS	MP2481DH-LF-Z



PRINTED CIRCUIT BOARD LAYOUT





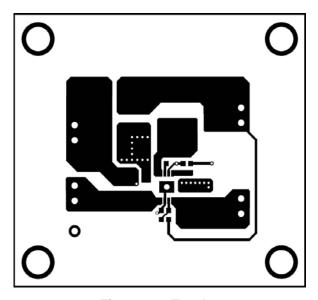


Figure 2—Top Layer

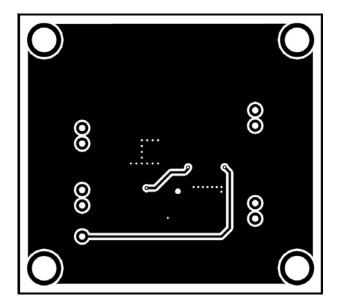


Figure 3—Bottom Layer