

# WPN30R

## 30 Watt Single Output Half Brick DC/DC Converter



- 36 - 75V Input Range
- Industry Standard Pinouts
- Input & Output Filtering
- Extended Temperature Range: -40°C to +100°C Baseplate
- Remote On/Off Function
- Input Reverse Voltage Protection
- Fixed Frequency Operation
- Short Circuit Protection
- UL/CUL 60950, VDE EN60950



The WPN30R Series is a family of high performance DC/DC converters. The unit is housed in a space-saving shell and combines low cost with high performance across all line and load conditions. An output trim feature is provided, allowing the user to compensate for long line lengths. The WPN30R Series is assembled by a fully automated process using

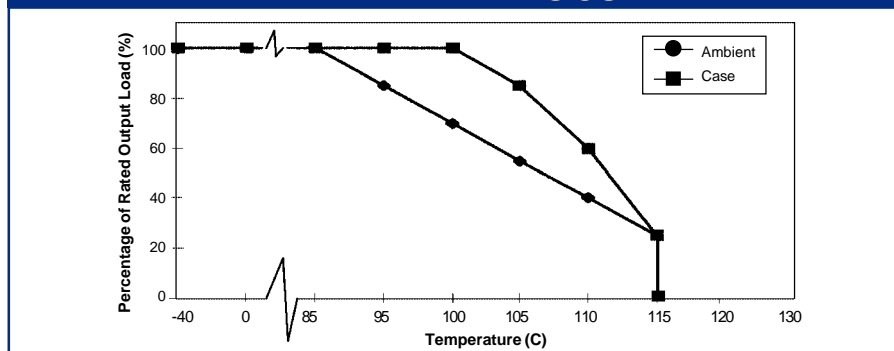
surface mount components for increased reliability. Through-holes are provided to simplify unit mounting or the addition of a heatsink for high temperature applications. Other features include:

- Full Regulation Down to Zero Load
- Under Voltage Lock-Out, Auto-Start
- Internal Temperature Shutdown, Auto-Reset
- Soft Start
- Remote On/Off (Available in Positive or Negative Logic)
- Remote Sense
- Over Current Protection
- Output Over Voltage Protection
- Output Voltage Adjust

### PRODUCT SELECTION CHART

MODEL	NOMINAL INPUT VOLTAGE (VDC)	RATED OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT			INPUT CURRENT NOM LOAD (A)	EFFICIENCY (%)
			MIN LOAD(A)	NOM LOAD (A)	MAX LOAD (A)		
WPN30R48S03	48	3.3	0.0	9.0	11.0	0.755	82
WPN30R48S05	48	5.0	0.0	6.0	7.5	0.744	84
WPN30R48S12	48	12	0.0	2.5	3.0	0.718	87
WPN30R48S15	48	15	0.0	2.0	2.4	0.718	87

### THERMAL DERATING CURVE



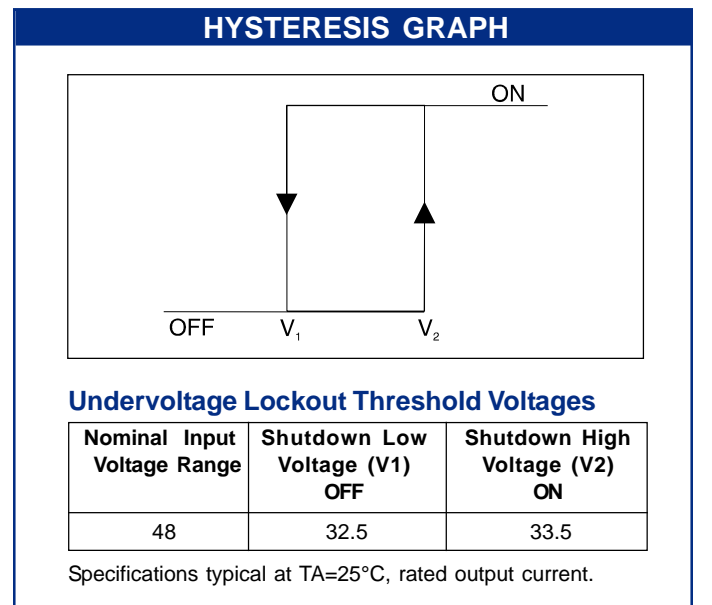
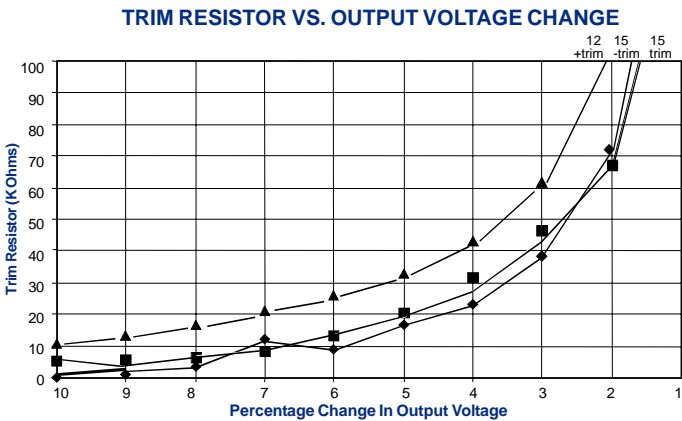
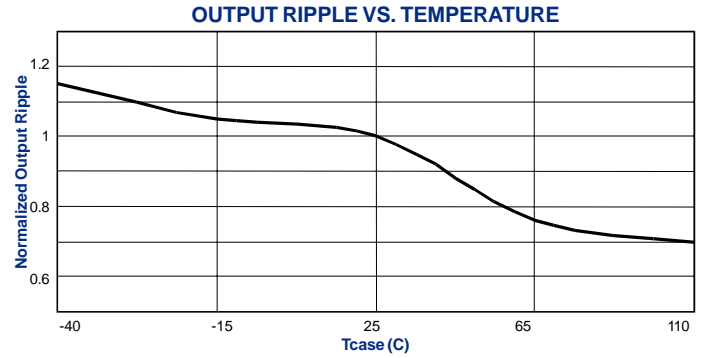
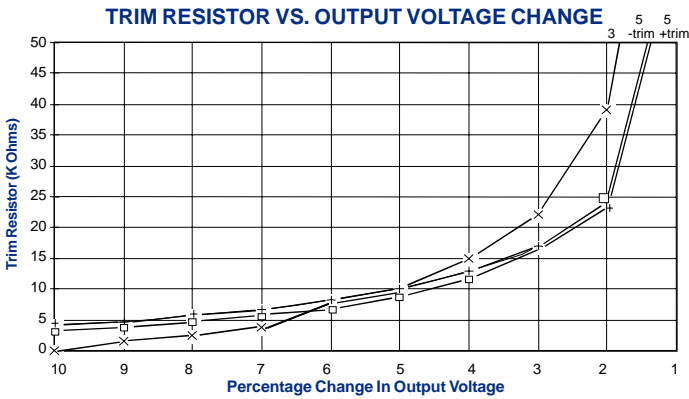
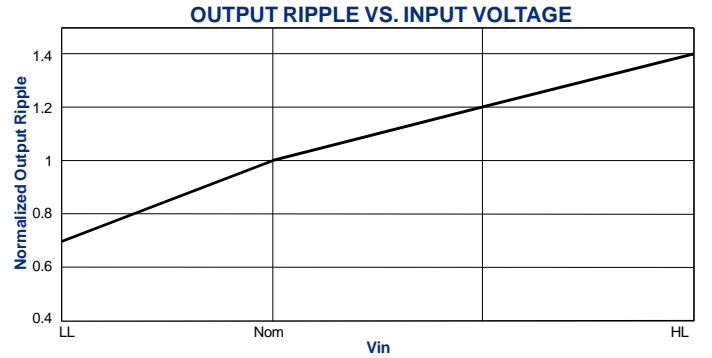
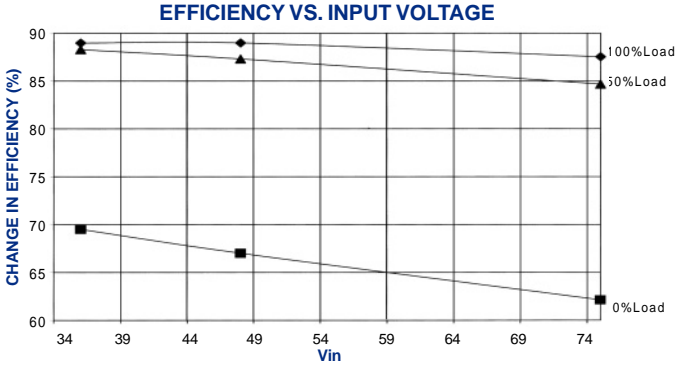
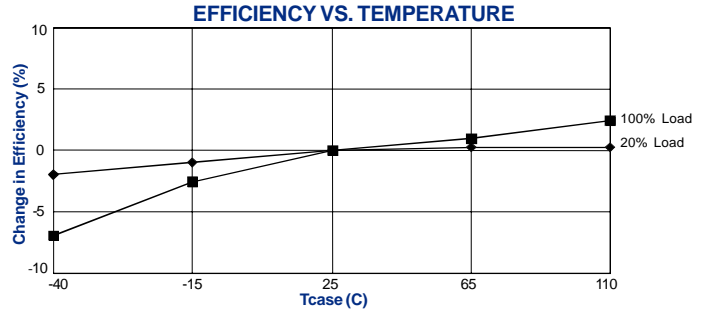
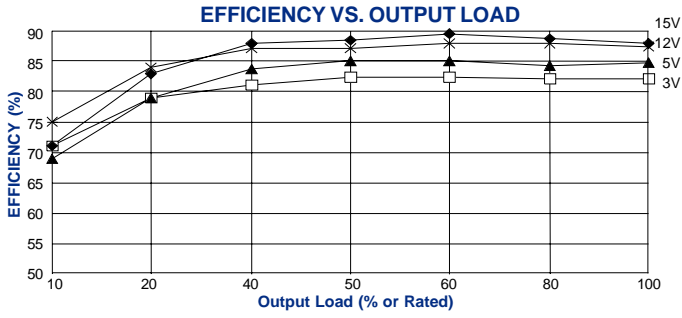
# SPECIFICATIONS, ALL MODELS

Specifications are at  $T_{CASE} = +40^{\circ}C$  nominal input voltage unless otherwise specified.

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
	<b>INPUT</b>						
	Voltage Range	WPN30R48xyzz	36	48	75	VDC	
	Reflected Ripple Current			50	75	mA	
	<b>INPUT CONTROL</b>						
	Temperature Shutdown				107	$^{\circ}C$	
	Temperature Hysteresis				5	$^{\circ}C$	
	Quiescent Standby Current	Current into & Vin		8	10	mA	
	Under Voltage Shutdown	WPN30R48xyzz		32.5		V	
	Under Voltage Hysteresis	WPN30R48xyzz		1		V	

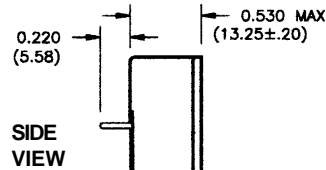
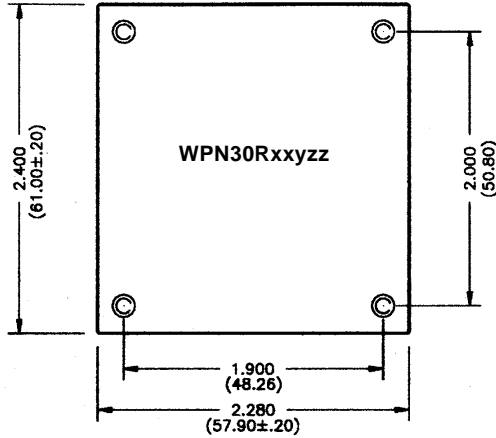
GENERAL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
	<b>ISOLATION</b>						
	Rated Voltage		1500			VDC	
	Resistance			10		$G\Omega$	
	Capacitance			1000		pF	
	Leakage Current	240VAC			100	$\mu A$ ms	
	<b>OUTPUT</b>						
	Rated Power				30	W	
	Voltage Setpoint Accuracy						
	Single Output				$\pm 1.5$	%	
	Temperature Coefficient				$\pm 0.2$	$\%/^{\circ}C$	
	Line Regulation	High Line to Low Line					
	Single Output				$\pm 0.1$	%	
	Load Regulation	Min. Load to Nom Load					
	Single Output				$\pm 0.4$	%	
	Ripple & Noise						
	Single Output	BW = 5Hz to 20 MHz		50	80	mVp-p	
	Output Adjust Range	All Outputs		$\pm 9.5$		%	
	Output Adjust Current	Current Sourced/Sunk by Vadj Pin			$\pm 0.5$	mA	
	Short Circuit Protection						
	Single Output				7.5	A	
	<b>GENERAL</b>						
	Switching Frequency				300	kHz	
	MTTF per MIL-HDBK-217	Circuit Stress Method					
	Ground Benign	$T_A = +25^{\circ}C$ , Unmodified Database			1,500,000	Hr	
	Package Weight			90		g	
	<b>TEMPERATURE</b>						
	Operation/Specification	Case Temperature		-40	+100	$^{\circ}C$	
	Storage	Case Temperature		-55	+110	$^{\circ}C$	
	Shutdown Temperature	Case Temperature		+105	+107	$^{\circ}C$	
	Thermal Impedance, Case-Ambient				7	$^{\circ}C/W$	

# PERFORMANCE GRAPHS



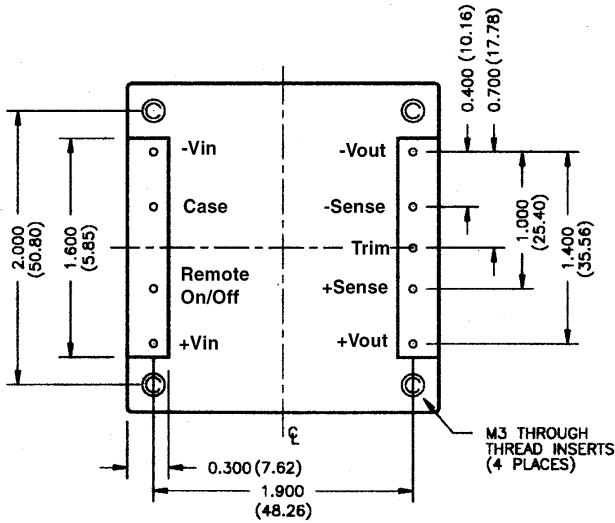
# MECHANICAL

TOP VIEW



.040 (1.02) DIA  
SOLDER-PLATED BRASS  
9 PLACES

SINGLE BOTTOM VIEW



M3 THROUGH  
THREAD INSERTS  
(4 PLACES)

## NOTES

All dimensions are in inches (millimeters).

Unless stated otherwise, dimensional tolerance  $\pm 0.010"$  ( $\pm 0.2\text{mm}$ ).

Pin placement tolerance:  $\pm 0.015"$  ( $\pm 0.2\text{mm}$ ).

Marked with specific model ordered, date, code, job code.

MATERIAL: Lead material is brass with a solder plated surface to allow ease of solderability.

## ORDERING INFORMATION

Device Family WPN30R xyz -  
Indicated 30 Watt Regulated DC/DC Converter

Model Number \_\_\_\_\_  
Selected from Table of Electrical Characteristics  
Where:  
xx = Input Voltage  
y = Number of Outputs (Single "S")  
zz = Output Voltage

Remote On/Off Logic \_\_\_\_\_  
Positive Logic - No Number  
Negative Logic - 1

**Power Electronics Division, Americas**  
3400 E Britannia Drive, Tucson, Arizona 85706  
Tel: 800.547.2537 Fax: 520.295.4197

**C&D Technologies, EMEA/Asia/Pacific**  
Milton Keynes MK14 5BU UK  
Tel: +44 (0)1908 615232 Fax: +44 (0)1908 617545

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