



# 300UR series

## Single & Dual Output DC/DC Converter

### DESCRIPTIONS

The 300UR series is a family of miniature 3W DC/DC converters specifically designed for board mount power distribution applications where space is critical, but performance and power cannot be sacrificed. Standard features include an ultra-wide 4:1 input voltage range, efficiency as high as 80% and continuous short circuit protection by input current limiting. 12 models operate from (4:1) input voltage ranges of 10 to 40 VDC or 18 to 72 VDC and provide tightly regulated outputs of 5, 12, 15,  $\pm 5$ ,  $\pm 12$  or  $\pm 15$  VDC. All models are packaged in a compact, low profile 0.8" X 1.25" X 0.4" case.

### OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Accuracy	$\pm 0.5$		$\pm 1.0$	% Output voltage @ Nominal line @ FL
Voltage Balance (Dual):	$\pm 0.5$	$\pm 2.0$		%; Equal Output Loads
Line Regulation	$\pm 0.2$	$\pm 0.5$		% Output voltage measured from min. input line to max. <sup>3</sup>
Load Regulation	$\pm 0.2$	$\pm 0.5$		% Vout measured from FL to 10% load
Ripple/Noise			1	% Vout; p-p, Nom.Line FL, 20Mhz B.W. using 1 $\mu$ f bypass capacitor
Short Circuit Protection				Continuous, Automatic Recovery
Transient Recovery Time		300	500	$\mu$ S for 25% load change
Temperature Coefficient	$\pm 0.01$	$\pm 0.02$		% per $^{\circ}$ C

<sup>1</sup> = Output voltage at nominal line & FL

<sup>2</sup> = Output voltage measured from minimum input line to maximum

<sup>3</sup> = Output voltage measured from FL to 10% Load

### FEATURES

- Single and Dual Output, 3 watt converter
- Available in 12 & 28 Vin 4:1 Wide Input Voltage Range
- -25 $^{\circ}$ C to +75 $^{\circ}$ C Operating Temperature Range
- Efficiency to 80%
- Industry Standard Pin out
- Short Circuit Protection
- 72 Hours Burn-in (100% of Production)

### INPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Input Voltage				
20 VDC Input Models	10	12	40	VDC
36 VDC Input Models	18	28	72	VDC
Input Filter				PI Type

### GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Switching Frequency	180			kHz
Isolation Voltage	500			VDC, 1 minute
Isolation Resistance	1000			Mohm, 500VDC
Isolation Capacitance		100		pF, 100kHz, 1Volt
MTBF (MIL-HBK-217F)	900			Thousand Hours, +25 $^{\circ}$ C, Ground Benign



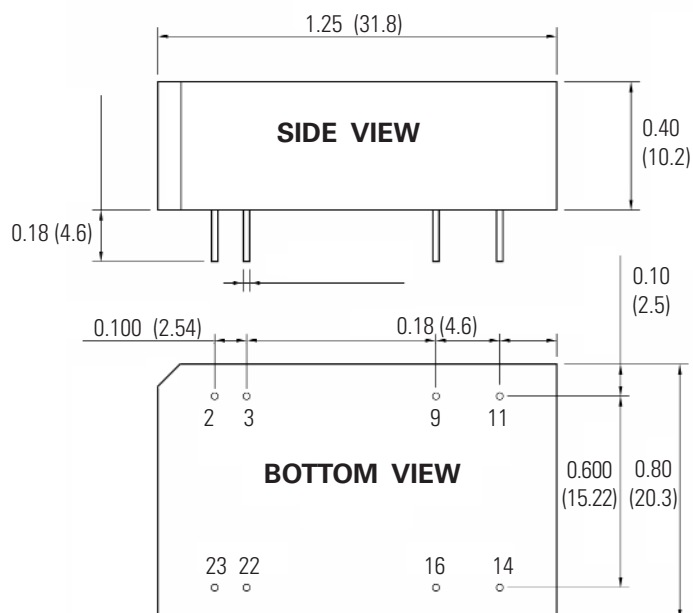
### ENVIRONMENTAL SPECIFICATIONS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range	-25		+75	°C; Ambient
Storage Temp. Range	-40		+105	°C
Relative Humidity			+95	% Humidity; non-condensing
Cooling				Free-Air Convection

### PHYSICAL CHARACTERISTICS

	Unit/Comments
Case Size	0.8 X 1.25 X 0.4 inches (20.3 X 31.8 X 10.2 mm)
Case Material	Non-Conductive Plastic
Flammability	UL94V-0
Weight	14 Grams

### OUTLINE DRAWING



### PIN OUT CHART

Pins	Single	Dual
2, 3	- Vin	- Vin
9	NC	Common
11	-Vout	- Vout
14	+ V out	+ V out
16	NC	Common
22, 23	+ Vin	+ Vin

NC = No Connection

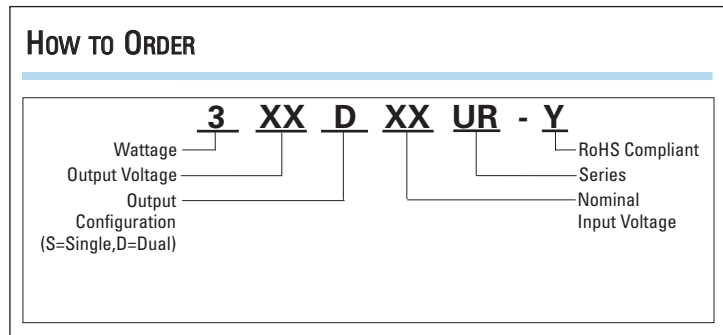
#### Notes:

1. Unless otherwise specified dimensions are in inches (mm).

Tolerances	Inches	mm
	X.XX = ±0.02	X.X = ±0.5
	X.XXX = ±0.010	X.XX = ±0.25



## How To ORDER



## MODEL SELECTION CHART

Model	Nominal Input Voltage (VDC)	Input Voltage Range (VDC)	No Load Input Current (mA)	Full Load Output Current (mA)	Output Voltage (VDC)	Output Current (mA)	Output Voltage (VDC)	Efficiency @ FL (%)
305S12UR	12	10-40	30	330	5	600	6.8	76
312S12UR	12	10-40	30	320	12	250	15.0	77
315S12UR	12	10-40	30	310	15	200	18.0	80
305S28UR	28	18-72	30	150	5	600	6.8	77
312S28UR	28	18-72	30	150	12	250	15.0	75
315S28UR	28	18-72	30	140	15	200	18.0	76
305D12UR	12	10-40	30	330	±5	±300	±6.8	77
312D12UR	12	10-40	30	330	±12	±125	±15.0	75
315D12UR	12	10-40	30	320	±15	±100	±18.0	77
305D28UR	28	18-72	30	140	±5	±300	±6.8	78
312D28UR	28	18-72	30	140	±12	±125	±15.0	76
315D28UR	28	18-72	30	140	±15	±100	±18.0	76