



# 500UR series

## Single & Dual Output DC/DC Converter

### FEATURES

- Up to 81% Efficiency
- Single & Dual Output, 5 watt converter
- 1400 VDC Input / Output Isolation
- Short Circuit Protection
- Wide 4:1 Input Voltage Range

### DESCRIPTIONS

The 500UR series 5 watts power modules are high efficiency, low profile dc-dc converters that operate over input voltage ranges of 10-40 VDC and 18-72 VDC, and provide precisely regulated output voltages of 5V, 12V, 15V,  $\pm 5V$ ,  $\pm 12V$  and  $\pm 15V$ .

The  $-25^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  operating temperature range makes it ideal for data communication equipment, mobile battery driven equipment, distributed power systems, telecommunication equipment, mixed analog/digital subsystems, process/machine control equipment, computer peripheral systems and industrial robot systems.

### OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Set Point			$\pm 2.0$	% Output voltage at nominal line & FL
Output Voltage Balance (Dual Output)			$\pm 1.0$	% Equal Output Loads
Line Regulation			$\pm 0.5$	% Output voltage measured from min. input line to maximum
Load Regulation				
Single Output			$\pm 0.5$	%; Max. to 10% load @ Nom.Line
Dual Output			$\pm 1.0$	%; Max. to 25% load @ Nom.Line, Equal Loads
Ripple/Noise				
5V models			75	mV; p-p
12 and 15V models			1	%; p-p Max.
Short Circuit Protection				Continuous, Automatic Recovery
Temperature Coefficient			$\pm 0.02$	% per degree C

### GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Switching Frequency		180		kHz
Isolation Voltage		1400		VDC, 1 minute
Isolation Resistance		1000		Mohm, 500VDC
Input Filter				Pi Filter



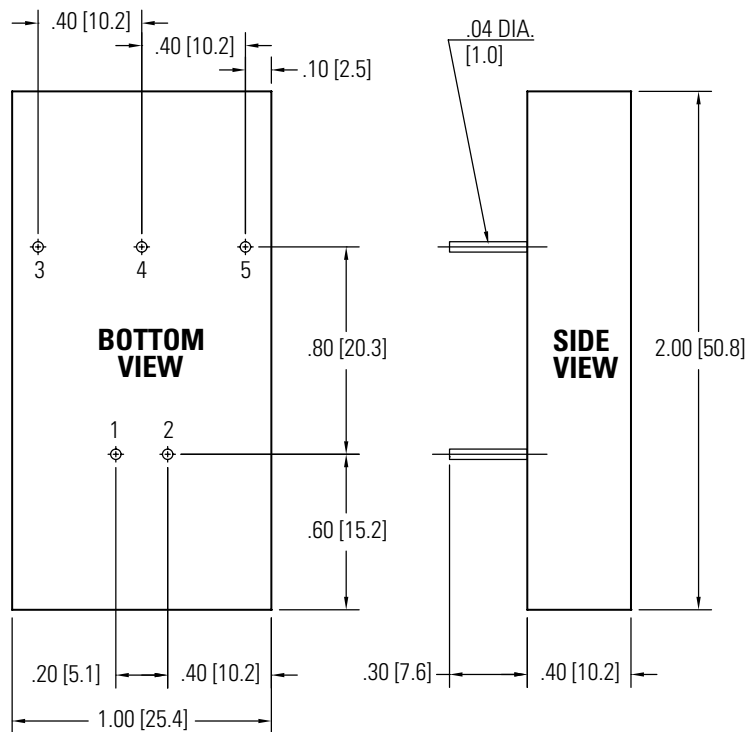
**ENVIRONMENTAL SPECIFICATIONS**

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

**PHYSICAL CHARACTERISTICS**

	Unit/Comments
Case Size	2.0 X 1.0 X 0.40 inches (50.8 X 25.4 X 10.2 mm)
Case Material	Non-conductive Black Plastic
Flammability	UL94V-0
Weight	1.5 oz.

**OUTLINE DRAWING**



**PIN OUT CHART**

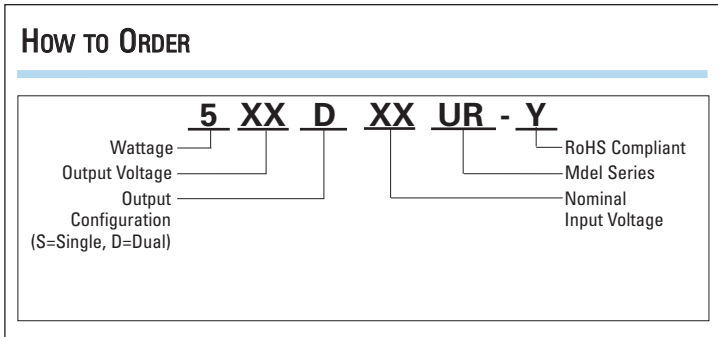
Pins	Single	Dual
1	+ Vin	+Vin
2	- Vin	- Vin
3	+ Vout	+Vout
4	No Pin	± COMMON
5	- Vout	- Vout

**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
Pin :	±0.002	±0.05

All specifications are typical at nominal input, nominal load and 25° C unless otherwise specified.  
 External, low ESR, 10 microfarad (minimum) capacitor across output is recommended for operation.



**MODEL SELECTION CHART**

Model	Nominal Input Voltage (VDC)	Input Voltage Range (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Full Load Output Current (mA)	Efficiency @ FL (%)
505S20UR	20	10 - 40	30	340	5	1000	73
512S20UR	20	10 - 40	30	350	12	416	72
515S20UR	20	10 - 40	30	350	15	333	72
505D20UR	20	10 - 40	30	340	±5	±500	73
512D20UR	20	10 - 40	30	340	±12	±208	73
515D20UR	20	10 - 40	30	340	±15	±166	73
505S36UR	36	18 - 72	30	190	5	1000	73
512S36UR	36	18 - 72	30	170	12	416	81
515S36UR	36	18 - 72	30	170	15	333	81
505D36UR	36	18 - 72	30	180	±5	±500	77
512D36UR	36	18 - 72	30	180	±12	±208	77
515D36UR	36	18 - 72	30	180	±15	±166	77