



PWR73XX SERIES

**3 WATTS
REGULATED**

DC/DC CONVERTERS

LOW COST INDUSTRY STANDARD

FEATURES

- HIGH RELIABILITY
- EXTENDED TEMPERATURE RANGE
- SHORT-CIRCUIT PROTECTED
- FOLDBACK CURRENT LIMIT
- HIGH EFFICIENCY
- LINEAR OUTPUT REGULATION
- TRACKING OUTPUTS
- SIX-SIDED SHIELDING
- INTERNAL INPUT AND OUTPUT FILTERING
- NON-CONDUCTIVE CASE
- INDUSTRY STANDARD PINOUT
- 500VDC ISOLATION

DESCRIPTION

The PWR73XX Series uses advanced circuit design and packaging technology to realize superior reliability and performance. A 170kHz driven push-pull oscillator is used to ensure stable frequency and non-saturating operation of the input stage. This means there are no high peak voltages or currents like other design topologies which can severely reduce unit reliability. Reliability is further enhanced by the use of MOSPOWER transistors. These rugged devices permit higher frequency operation with less complicated drive circuitry than is possible with bipolar power transistors. Reduced parts count adds to the reliability of the PWR73XX Series.

Indefinite short-circuit protection and foldback current limiting make the PWR73XX Series rugged

devices for use in demanding system applications. These features add to the overall reliability of the PWR73XX Series by reducing the possibility of inadvertently damaging the unit due to an output overload.

The high efficiency of the PWR73XX Series means less internal power dissipation than competitive units. With less heat to have to dissipate, the PWR73XX Series can operate at higher ambient temperature with no degradation of reliable operation.

The PWR73XX Series offers the user low cost without sacrificing reliability. The use of surface mounted devices and manufacturing technologies makes it possible to offer premium performance and low cost.

ELECTRICAL SPECIFICATIONS

Specifications typical at $T_A = +25^{\circ}\text{C}$, nominal input voltage, rated output current unless otherwise specified.

MODEL	NOMINAL Input Voltage (VDC)	Rated OUTPUT Voltage (VDC)	RATED OUTPUT CURRENT (mA)	Input Current		Reflected Ripple Current (mA _{p-p})	EFFICIENCY (%)
				No Load (mA)	Full Load (mA)		
PWR7300	5	5	600	45	960	20	62
PWR7304	5	± 12	± 125	45	940	20	64
PWR7305	5	± 15	± 100	45	920	20	65
PWR7306	12	5	600	35	390	20	64
PWR7310	12	± 12	± 125	35	385	20	65
PWR7311	12	± 15	± 100	35	380	20	66
PWR7312	15	5	600	30	310	20	65
PWR7316	15	± 12	± 125	30	305	20	65
PWR7317	15	± 15	± 100	30	300	20	66
PWR7318	24	5	600	35	200	20	63
PWR7322	24	± 12	± 125	35	195	20	63
PWR7323	24	± 15	± 100	35	190	20	65

NOTE: Other input to output voltages may be available. Please consult factory.

COMMON SPECIFICATIONS

Specifications typical at $T_A = +25^{\circ}\text{C}$, nominal input voltage, rated output current unless otherwise specified.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT Voltage Range		4.65 10.8 13.5 21.6	5 12 15 24	5.5 13.2 16.5 26.5	VDC VDC VDC VDC
ISOLATION Rated Voltage Resistance Capacitance Leakage Current	$V_{ISO} = 240\text{VAC}, 60\text{Hz}$	500	10 80 10		VDC GΩ pF μArms
OUTPUT Rated Power Voltage Accuracy Temperature Coefficient Ripple and Noise Tracking	BW = DC to 10MHz BW = DC to 2MHz -V _{OUT} Tracks +V _{OUT}		3 ± 0.02 20 5 ± 1	± 1	W % %/°C mVp-p mVrms %
TRANSIENT RESPONSE 5V Output Models (Within $\pm 1\%$) All Other Models (Within $\pm 0.1\%$)	Full Load to No Load No Load to Full Load Full Load to No Load No Load to Full Load		40 30 50 40		μs μs μs μs
REGULATION Line Regulation Load Regulation 5V Output Models All Other Models	High Line to Low Line Full Load to No Load		± 0.01 ± 0.02 ± 0.01		% % %
GENERAL Switching Frequency MTTF per MIL-HDBK-217, Rev. E Ground Benign Fixed Ground Naval Sheltered Airborne Uninhabited Fighter	Circuit Stress Method $T_A = +25^{\circ}\text{C}$ $T_A = +85^{\circ}\text{C}$ $T_A = +35^{\circ}\text{C}$ $T_A = +35^{\circ}\text{C}$ $T_A = +35^{\circ}\text{C}$		170 779,000 19,500 248,500 133,500 30,000		kHz hrs hrs hrs hrs hrs
TEMPERATURE Specification Operation Storage	No Power Derating	0 -25 -40		+85 +100 +105	°C °C °C

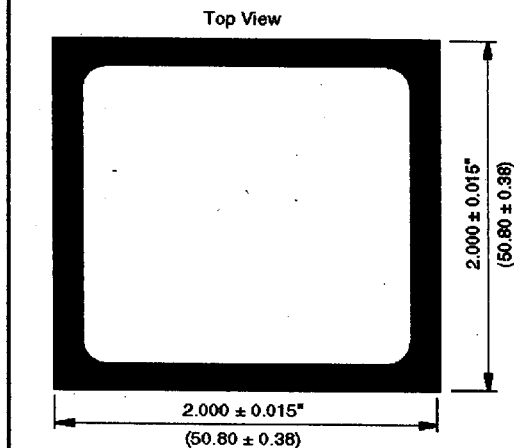
ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration	Continuous
Internal Power Dissipation	2.2W
Junction Temperature	+100°C
Package Thermal Resistance	5°C/W
Lead Temperature (soldering, 10s max)	+300°C

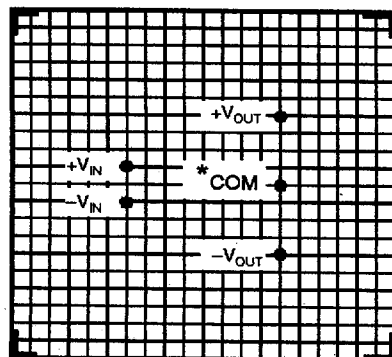
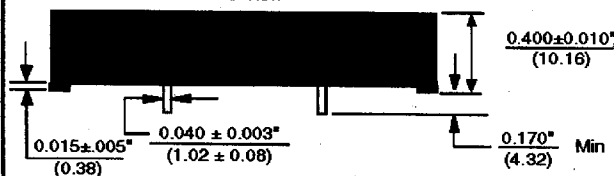
ORDERING INFORMATION

Device Family	PWR 73XX A
PWR Indicates DC/DC Converter	
Model Number	Selected from Table of Electrical Characteristics
Package Option	A or C (see Mechanical section)

MECHANICAL



("A" Package Option)
Side View



Bottom View

NOTES: All dimensions are in inches (millimeters).

GRID: 0.1 inches (2.54 millimeters).

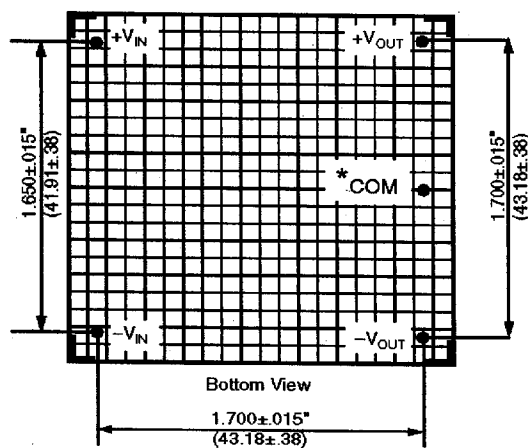
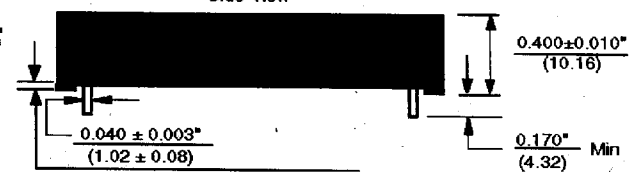
* Common pin not present on single output models.

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

PIN PLACEMENT TOLERANCE: ±0.015"

MATERIAL: Units are encapsulated in Iso-ThermoFlex™, a low thermal resistance molding compound which has excellent chemical resistance, wide operating temperature range, and good electrical properties under high humidity environments. The encapsulant and outer shell of the unit have UL94V-0 ratings. Lead material is brass with a solder plated surface to allow ease of solderability.

("C" Package Option)
Side View



Bottom View