



DESCRIPTION

The PWR12xxC Series offers a broad line of low-cost, high-performance, unregulated, single and dual output DC/DC converters in a 24-pin DIP package. These miniature converters offer better performance and lower cost in industry-standard packages and pinouts. The PWR12xxC Series is internally filtered. No external parts are necessary.

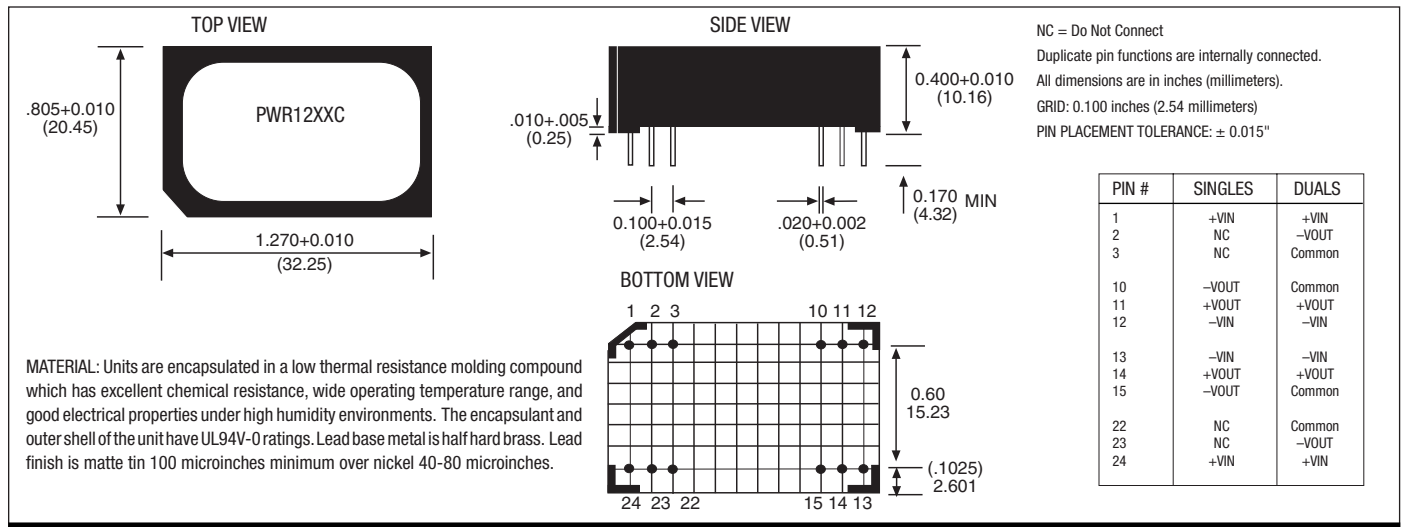
Surface mounted components and a low thermal resistance encapsulant allow for superior reliability, excellent thermal dissipation, and an extended temperature range of -25°C to $+85^{\circ}\text{C}$ at no extra cost.

The PWR12xxC Series is ideal for use on high-density PC boards where isolated, unregulated, power is needed. Standoffs allow for PC board cleaning, helping preserve isolation. They also allow for visual inspection of solder joints.

FEATURES

- ROHS COMPLIANT
- LOW COST
- INDUSTRY-STANDARD PACKAGE
- SINGLE AND DUAL OUTPUTS
- 24-PIN DIP PACKAGE
- BUILT-IN STANDOFFS
- INTERNAL INPUT AND OUTPUT FILTERING

MECHANICAL



ELECTRICAL SPECIFICATIONS

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

MODEL	NOMINAL INPUT VOLTAGE (Voc)	RATED OUTPUT VOLTAGE (Voc)	RATED OUTPUT CURRENT (mA)	INPUT CURRENT		REFLECTED RIPPLE CURRENT (mA _{p-p})
				NO LOAD (mA)	RATED LOAD (mA)	
PWR1200C	5	5	600	30	800	45
PWR1201C	5	12	250	30	800	45
PWR1202C	5	15	200	30	800	45
PWR1203C	5	±5	±300	30	800	45
PWR1204C	5	±12	±125	30	800	45
PWR1205C	5	±15	±100	30	800	45
PWR1206C	12	5	600	30	330	25
PWR1207C	12	12	250	30	330	25
PWR1208C	12	15	200	30	330	25
PWR1209C	12	±5	±300	30	330	25
PWR1210C	12	±12	±125	30	330	25
PWR1211C	12	±15	±100	30	330	25
PWR1212C	15	5	600	30	265	20
PWR1213C	15	12	250	30	265	20
PWR1214C	15	15	200	30	265	20
PWR1215C	15	±5	±300	30	265	20
PWR1216C	15	±12	±125	30	265	20
PWR1217C	15	±15	±100	30	265	20
PWR1218C	24	5	600	30	165	20
PWR1219C	24	12	250	30	165	20
PWR1220C	24	15	200	30	165	20
PWR1221C	24	±5	±300	30	165	20
PWR1222C	24	±12	±125	30	165	20
PWR1223C	24	±15	±100	30	165	20
PWR1240C	5	9	333	30	800	45
PWR1241C	12	9	333	30	330	25
PWR1242C	15	9	333	30	265	20
PWR1243C	24	9	333	30	165	20

NOTE: Models listed with strike-through text have been officially discontinued. These models can be built on a custom basis with sufficient quantity justification. Contact factory for details.

COMMON SPECIFICATIONS

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

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT Voltage Range		4.5 10.8 13.5 21.6	5 12 15 24	5.5 13.2 16.5 26.4	Voc Voc Voc Voc
ISOLATION Rated Voltage		500			Voc
Test Voltage	60 Hz, 10 Seconds	500			Vpk
Resistance			10		GΩ
Capacitance			90		pF
Leakage Current	$V_{ISO} = 240V_{AC}, 60\text{HZ}$		10		μArms
OUTPUT Rated Power			3		W
Voltage Setpoint Accuracy	Rated Load, Nominal V_{IN}		±3	±5	%
Temperature Coefficient			±0.02		%/°C
Ripple and Noise (BW = DC to 20MHz)	No External Components 10μF Across Each Output 10μF Across Each Output		150 10 30		mVp-p mVrms mVp-p
Voltage	No Load, $V_{OUT} = +5V$ No Load, $V_{OUT} = \pm 12V$ No Load, $V_{OUT} = \pm 15V$			7 ±15 ±18	Voc Voc Voc Line
Regulation Load	No Load To Rated Load		1.2 6		%/V _{IN} %
GENERAL Package Weight			12		g
Switching Frequency			150		kHz
MTTF per MIL-HDBK-217, Rev E	Circuit Stress Method		700		kHr
Efficiency			75		%
TEMPERATURE Specification		-25	+25	+85	°C
Operation		-40		+125	°C
Storage		-40		+125	°C

ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration	Momentary
Internal Power Dissipation	1.3W
Lead Temperature (soldering, 10 seconds max)	+300°C

ORDERING INFORMATION

Device Family _____	PWR	12XX	C
PWR indicates DC/DC converter			
Model Number _____			
Selected from Table of Electrical Characteristics			
RoHS Compliant _____			

APPLICATION NOTES

UNBALANCED LOADS

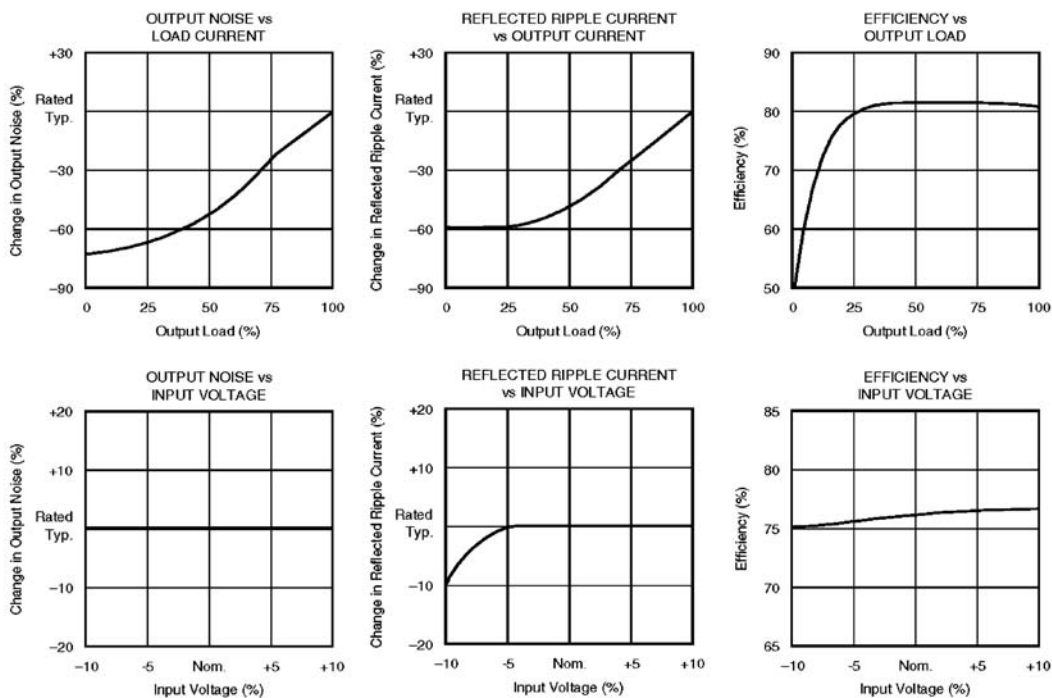
Unbalanced loads may be used on dual output models with either side providing up to its rated current. Output voltages, by design, will track each other in an unbalanced state within ±10% of one another.

OUTPUT NOISE

Output noise can be reduced to 30mVp-p, typically, by adding a 10µF tantalum capacitor with an equivalent series resistance (ESR) of less than 150mΩ at 10kHz across each output.

TYPICAL PERFORMANCE CURVES

T_a = +25°C, Rated Input Voltage, Rated Output Current unless otherwise noted.



SOLDERING INFORMATION

The PWR12xxC devices are intended for wave soldering or manual soldering. They are not intended to be subject to surface mount processes under any circumstances.

The normal wave soldering process can be used with these devices where the device is subjected to a maximum wave temperature of 260°C for a period of no more than 10 seconds. Within this time and temperature range, the integrity of the device’s plastic body will not be compromised and internal temperatures within the converter will not exceed 175°C. Care should be taken to control manual soldering limits identical to that of wave soldering.

3 Watts Unregulated DC/DC Converters

