

Product Data Sheet

.5 - 1.0 WATT DUAL-IN-LINE REGULATED DC/DC CONVERTER

PWR59XX



FEATURES

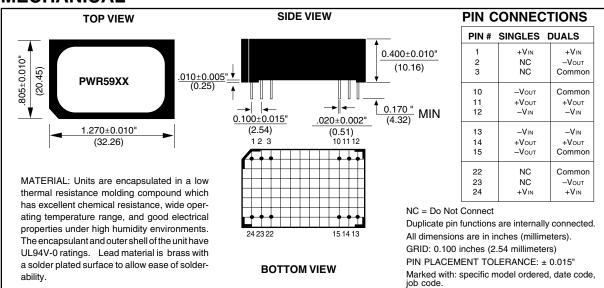
- High Reliability
- 24-Pin DIP Package
- Internal Input and Output Filtering
- Short-Circuit Current Limiting
- Thermal Overload Protection
- Built-In Standoffs
- Industry Standard Pinout

DESCRIPTION

The PWR59XX Series offers an extensive selection of input and output voltage combinations to choose from, including a 9V output for Cheapernet local area networking. Both single and dual output voltages are available. These miniature, regulated DC/DC converters come in a 24-pin dual-in-line package for applications where space is a concern. The small size is possible through the use of surface mounted devices and manufacturing technologies. SMT processes and components also make it possible to offer the Series with no power derating over an extended temperature range of -25° C to $+85^{\circ}$ C.

A push-pull input stage ensures fixed frequency, nonsaturating operation of the oscillator section of the PWR59XX Series. MOSPOWER transistors are used as high speed switching elements. These rugged devices provide higher frequency to 500kHz operation, and uncomplicated drive circuitry. Reduced component count means higher reliability. High frequency operation means smaller magnetics. Higher isolation voltages are possible, due to the section wound transformer. Higher frequency operation also means less noise generation within the system's bandwidth.

Linear regulators, used in the output stage, output voltage variations due to line and load changes, also provide shortcircuit current limiting and thermal overload protection.



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MECHANICAL

ELECTRICAL SPECIFICATIONS

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

	NOMINAL RATED		RATED INPUT		URRENT	REFLECTED		RATED
	INPUT	OUTPUT	OUTPUT	NO	RATED	RIPPLE		OUTPUT
	VOLTAGE	VOLTAGE	CURRENT	LOAD	LOAD	CURRENT	EFFICIENCY	POWER
MODEL	(VDC)	(VDC)	(mA)	(mA)	(mA)	(mAp-p)	(%)	(mW)
PWR5900	5	5	100	40	175	10	57	500
PWR5901	5	9	111	40	345	10	57	1000
PWR5902	5	12	83	40	345	10	57	1000
PWR5903	5	15	67	40	345	10	57	1000
PWR5904	5	±5	±50	40	175	10	57	500
PWR5905	5	±12	±42	40	345	10	57	1000
PWR5906	5	±15	±33	40	345	10	57	1000
PWR5907	12	5	100	35	100	30	42	500
PWR5908	12	9	111	35	170	30	49	1000
PWR5909	12	12	83	35	150	30	55	1000
PWR5910	12	15	67	35	150	30	55	1000
PWR5911	12	±5	±50	35	76	30	55	500
PWR5912	12	±12	±42	35	150	30	55	1000
PWR5913	12	±15	±33	35	150	30	55	1000
PWR5914	15	5	100	30	76	20	44	500
PWR5915	15	9	111	30	135	20	50	1000
PWR5916	15	12	83	30	120	20	55	1000
PWR5917	15	15	67	30	120	20	55	1000
PWR5918	15	±5	±50	30	60	20	55	500
PWR5919	15	±12	±42	30	120	20	55	1000
PWR5920	15	±15	±33	30	120	20	55	1000
PWR5921	24	5	100	15	43	10	48	500
PWR5922	24	9	111	15	83	10	50	1000
PWR5923	24	12	83	15	73	10	55	1000
PWR5924	24	15	67	15	73	10	55	1000
PWR5925	24	±5	±50	15	40	10	55	500
PWR5926	24	±12	±42	15	73	10	60	1000
PWR5927	24	±15	±33	15	73	10	60	1000

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

COMMON SPECIFICATIONS

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

PARAMETER	CONDITIONS	MIN	ТҮР	MAX	UNITS
INPUT					
Input Voltage Range		4.75	5	5.25	VDC
		11.4	12	12.6	VDC
		14.25	15	15.75	VDC
		22.8	24	25.2	VDC
ISOLATION					
Rated Voltage		750			VDC
Test Voltage	60 Hz, 10 Seconds	750			Vpk
Resistance			10		GW
Capacitance			50		pF
Leakage Current	V _{ISO} = 240VAC, 60Hz		4		μÅrms
OUTPUT					
Voltage Setpoint Accuracy	Rated Load, Nominal V			±5	%
Temperature Coefficient	· IN		±0.02		%/°C
Ripple & Noise	No External Components		50		mVp-p
(BW = DC to 20MHz)	10µF Across Each Output		5		mVrms
	10µF Across Each Output		10	20	mVp-p
Line Regulation			±0.3	-	%
Load Regulation	No Load to Rated Load		±0.4		%
GENERAL					
Switching Frequency	All Models Except 24V		500		kHz
5 1 5	24V _{IN} Models		200		kHz
MTTF per MIL-HDBK-217, Rev. E*	IN		900		kHr
Package Weight			11		g
TEMPERATURE					
Specification		-25	+25	+85	°C
Operation		-40		+100	°C
Storage		-40		+110	°C

ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration	Continuous
Internal Power Dissipation	1.5W
Lead Soldering Temperature (10seconds, max)	+300°C

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ORDERING INFORMATION

Model Number Selected from Table of Electrical Characteristics Screening Option	Selected from Table of Electrical Characteristics	<u>PWR</u> 59XX	<u>/H</u>
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