C&D TECHNOLOGIES

Product Data Sheet

5 WATTS REGULATED DC/DC CONVERTERS

PWR1546A

FEATURES

- 1mVp-p MAXIMUM OUTPUT NOISE
- 5W RATED OUTPUT POWER
- SHORT-CIRCUIT PROTECTION
- SIX-SIDED SHIELDING
- INTERNAL INPUT AND OUTPUT FILTERING
- FULLY REGULATED

APPLICATIONS

- HIGH RESOLUTION DATA ACQUISTION
- PRECISION TEST EQUIPMENT
- HIGH GAIN AMPLIFIERS
- PRECISION INSTRUMENTATION

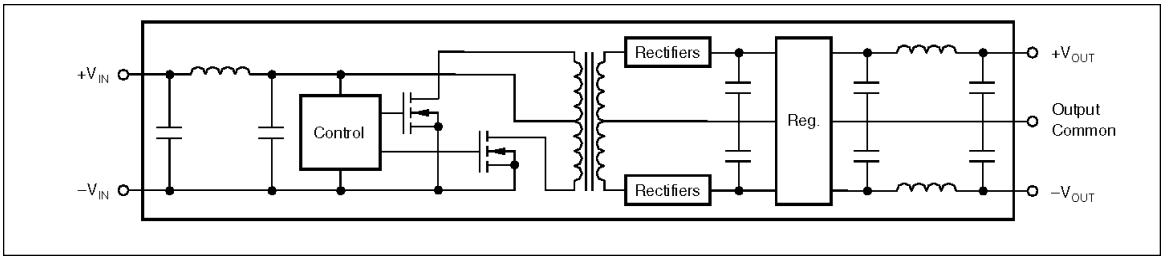
DESCRIPTION

The PWR1546A has a maximum of 1mVp-p output noise. This unit incorporates input and output filtering along with an internal shield, giving full six-sided shielding that keeps unwanted radiated noise from your circuit. No external parts are required to meet the 1mVp-p maximum guaranteed output noise.

The PWR1546A is a miniature DC/DC converter providing dual isolated ±15VDC outputs from a single +5VDC input. Each output will supply full-rated current over the entire specification range. Each output is regulated and is protected against all shorts. The isolation barrier is guaranteed to be 750VDC.

Surface-mounted components and thermal encapsulant allow superior reliability and excellent thermal dissipation. The calculated MTTF (per MIL-HDBK-217 Rev. E, Circuit-Stress Analysis Method) is in excess of 100 years at 25°C.

SIMPLIFIED CIRCUIT DIAGRAM



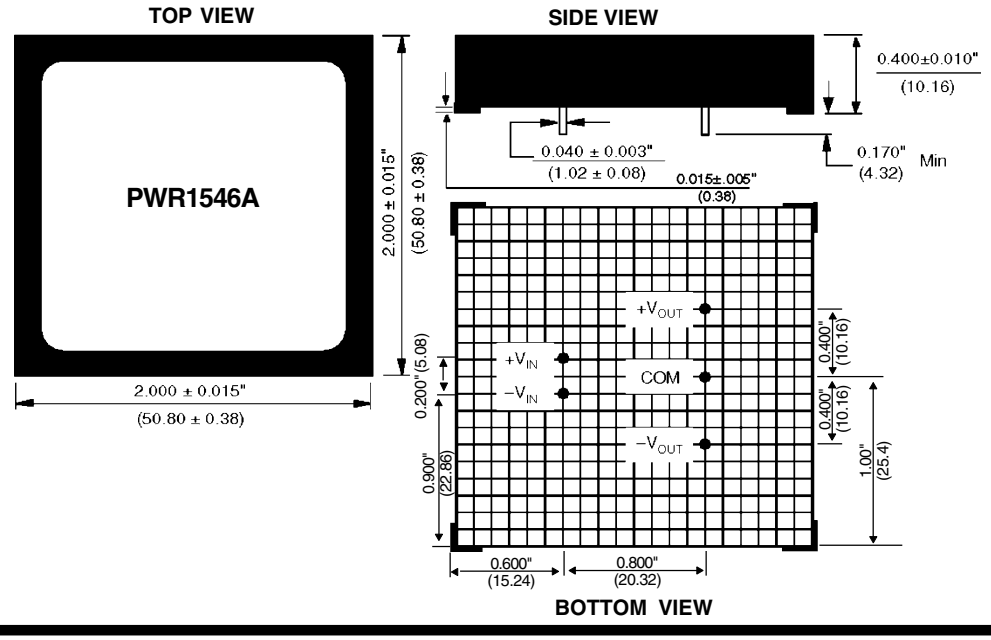
COMMON SPECIFICATIONS

Specifications typical at T_A = +25°C, rated input voltage, rated output current unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT					
Rated Voltage			5.0		V_{DC}
Voltage Range		4.5		5.5	V_{DC}
Current	I_{LOAD} = 0		80		mA
	I_{LOAD} = Rated Output		1650		mA
Reflected Ripple Current	BW = DC to 10MHz		18		mAp-p
ISOLATION					
Rated Voltage		750			V_{DC}
Test Voltage	60 Hz, 10 seconds	750			Vpk
Resistance			10		GΩ
Capacitance			110		pF
Leakage Current	V_{ISO} = 240VAC, 60HZ			15	µArms
OUTPUT					
Rated Voltage			±15		V_{DC}
Voltage Setpoint Accuracy	Rated Load, Nominal V_{IN}			±1	%
Voltage Balance				±0.5	%
Temperature Coefficient			±0.01		%/°C
Rated Current			±167		mA
Transient Recovery Time	To 0.1% of Final Value		10		ms
REGULATION					
Line	4.5V_{DC} to 5.5V_{DC}		±0.02		%
Load	0mA to ±167mA		0.02		%
OUTPUT NOISE					
Ripple and Noise	BW = DC to 10MHz		0.6	1.0	mVp-p
GENERAL					
Efficiency			60		%
Package Weight			50		g
Switching Frequency			50		kHz
MTTF per MIL-HDBK-217, Rev E.	Circuit Stress Method, T_A=+25°C		890		kHr
TEMPERATURE					
Specification		–25	+25	+85	°C
Operating		–40		+100	°C
Storage		–55		+125	°C

NOTE: Other input and output voltages may be available upon request. Please consult factory.

MECHANICAL



NOTES: All dimensions are in inches (millimeters).

GRID: 0.100 inches (2.54 millimeters)

Pin Placement Tolerance: ±0.015

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

MATERIAL: Units are encapsulated in 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.

ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration	Continuous
Internal Power Dissipation	4W
Lead Temperature (soldering, 10 seconds max)	+300°C

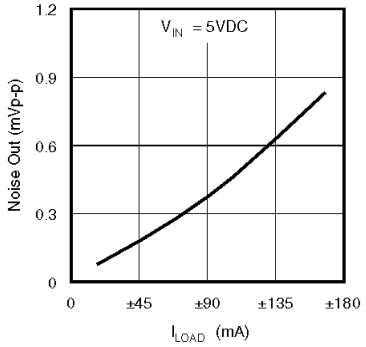
ORDERING INFORMATION

	PWR	1546A	/H
Device Family PWR indicates DC/DC converter			
Model Number			
Screening Option			

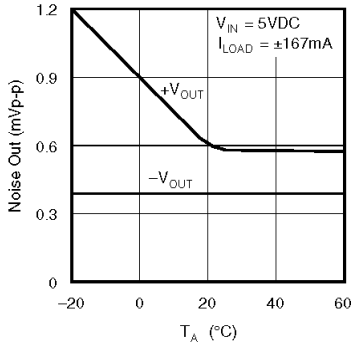
TYPICAL PERFORMANCE CURVES

T_A = +25°C, V_{IN} = 5VDC, I_{LOAD} = ±167mA unless otherwise noted.

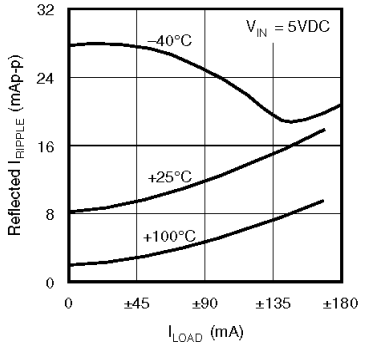
OUTPUT CURRENT



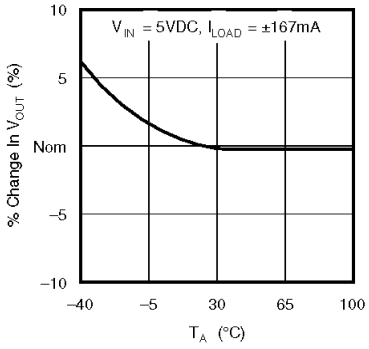
AMBIENT TEMPERATURE



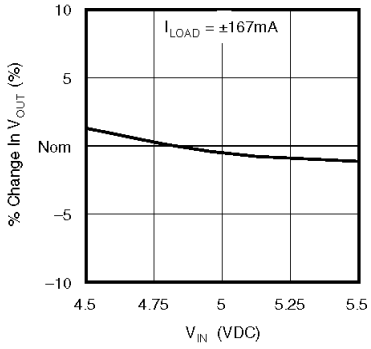
vs OUTPUT CURRENT



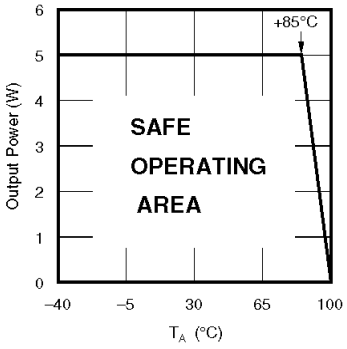
INPUT CURRENT vs AMBIENT TEMPERATURE



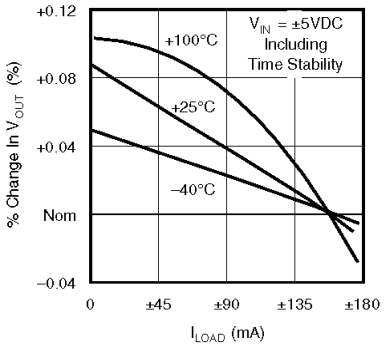
INPUT CURRENT vs INPUT VOLTAGE



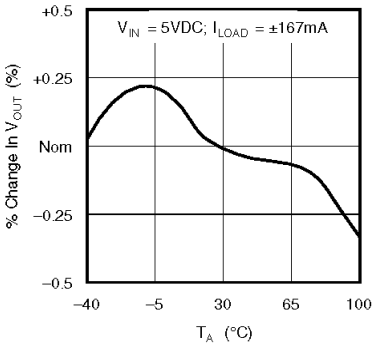
POWER DERATING



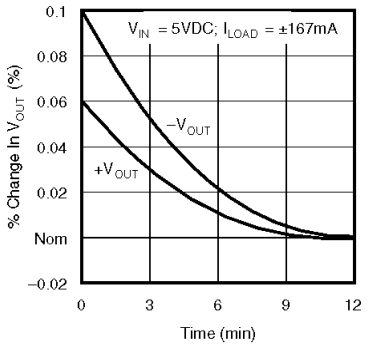
OUTPUT VOLTAGE vs OUTPUT CURRENT



OUTPUT VOLTAGE vs AMBIENT TEMPERATURE



WARMUP DRIFT



ENGINEERING NOTES

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