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[Murata Power Solutions Inc.](#)  
[PWR1546AC](#)

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# PWR1546AC

## 5 Watts Regulated DC/DC Converters



### 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 ACQUISITION
- PRECISION TEST EQUIPMENT
- HIGH GAIN AMPLIFIERS
- PRECISION INSTRUMENTATION

### DESCRIPTION

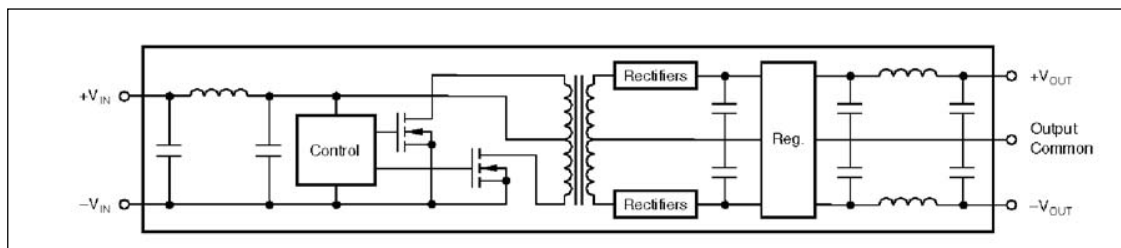
The PWR1546A has a maximum of 1mVp-p output noise. This unit incorporates input and output filtering along with an internal shield, giving full six-sided shielding that keeps unwanted radiated noise from your circuit. No external parts are required to meet the 1mVp-p maximum guaranteed output noise.

The PWR1546A is a miniature DC/DC converter providing dual isolated  $\pm 15\text{Vdc}$  outputs from a single  $+5\text{Vdc}$  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



For full details go to  
[www.murata-ps.com/rohs](http://www.murata-ps.com/rohs)

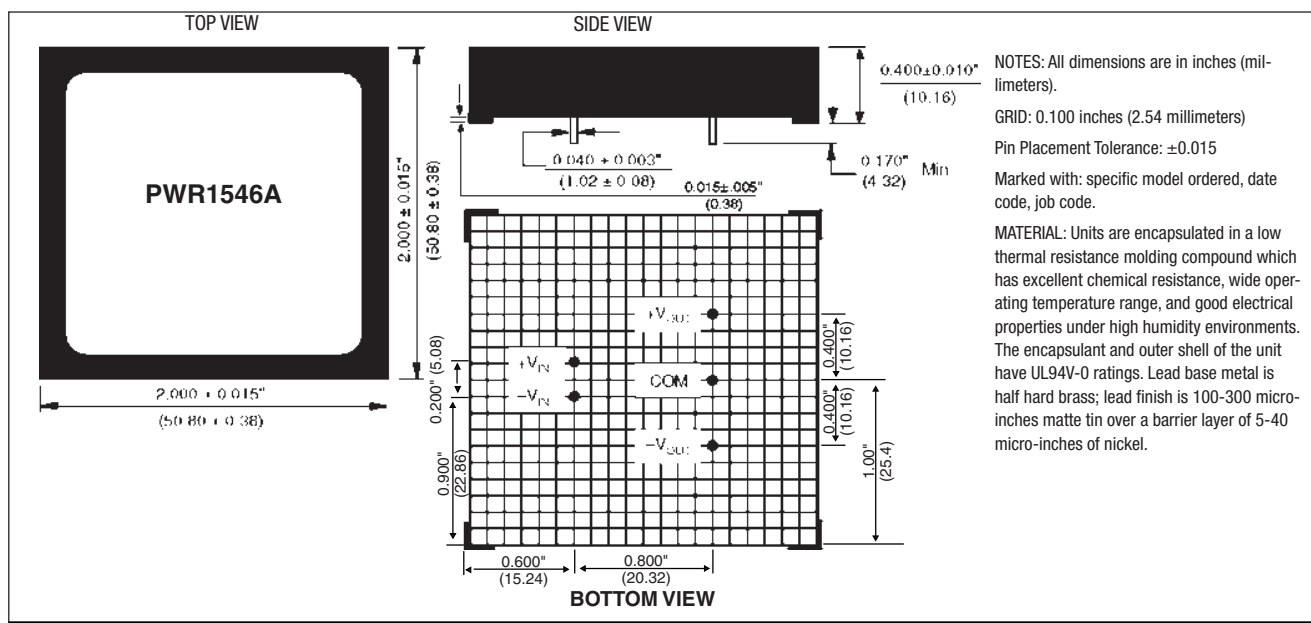
### COMMON SPECIFICATIONS

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					
Rated Voltage			5.0		V <sub>DC</sub>
Voltage Range		4.5		5.5	V <sub>DC</sub>
Current	I <sub>LOAD</sub> = 0		80		mA
	I <sub>LOAD</sub> = Rated Output		1650		mA
Reflected Ripple Current	BW = DC to 10MHz		18		mAp-p
ISOLATION					
Rated Voltage		750			V <sub>DC</sub>
Test Voltage	60 Hz, 10 seconds	750			V <sub>pk</sub>
Resistance			10		GΩ
Capacitance			110		pF
Leakage Current	V <sub>ISO</sub> = 240VAC, 60HZ			15	μArms
OUTPUT					
Rated Voltage			±15		V <sub>DC</sub>
Voltage Setpoint Accuracy	Rated Load, Nominal V <sub>IN</sub>			±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 <sub>DC</sub> to 5.5V <sub>DC</sub>		±0.02		%
Load	0mA to ±167mA		0.1		%
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 <sub>A</sub> = +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



**ABSOLUTE MAXIMUM RATINGS**

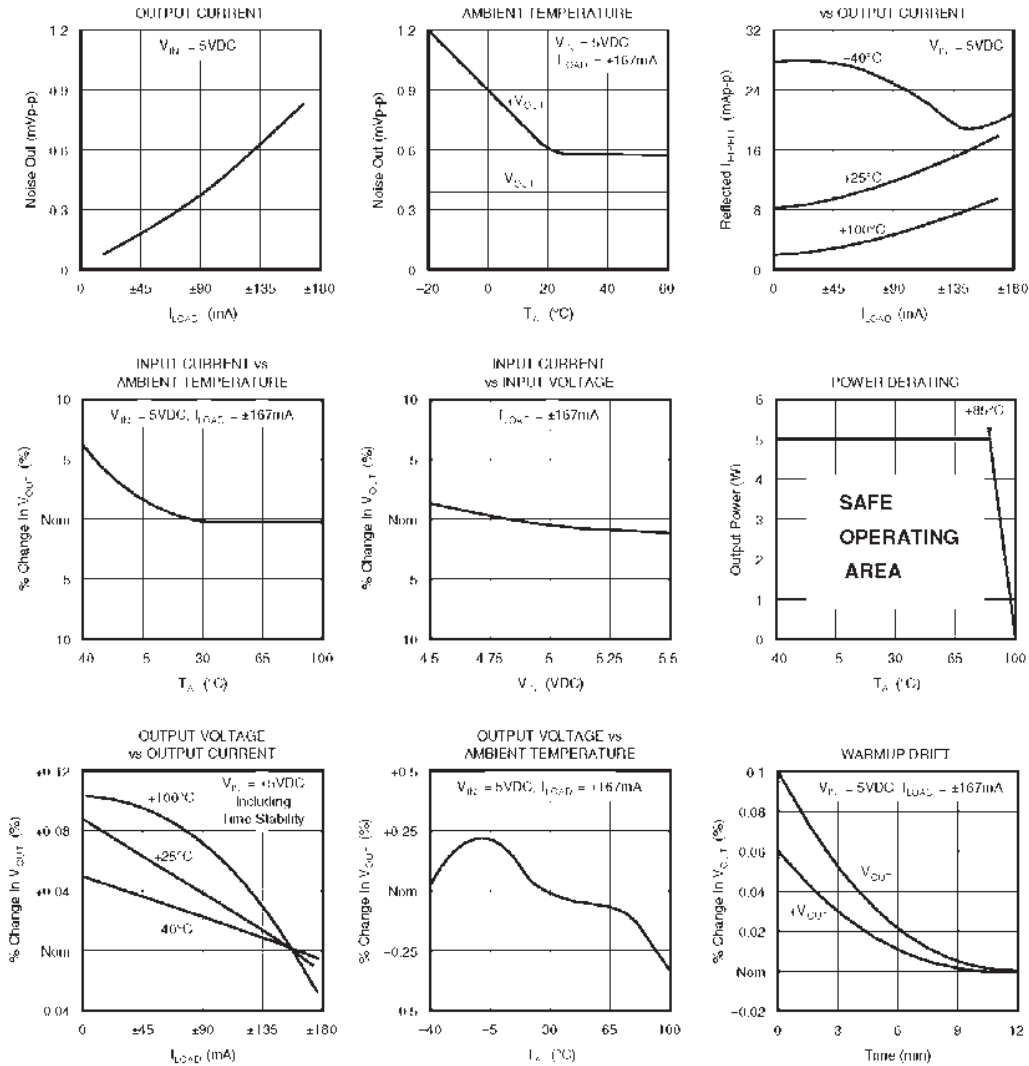
Output Short-Circuit Duration .....	Continuous
Internal Power Dissipation .....	4W
Lead Temperature (soldering, 10 seconds max) .....	+300°C

**ORDERING INFORMATION**

Device Family	PWR	1546A	/C
PWR indicates DC/DC converter			
Model Number			
RoHS-Compliant			

**TYPICAL PERFORMANCE CURVES**

$T_A = +25^\circ\text{C}$ ,  $V_{IN} = 5\text{VDC}$ ,  $I_{LOAD} = \pm 167\text{mA}$  unless otherwise noted.



**SOLDERING INFORMATION**

The PWR1546AC device is intended for wave soldering or manual soldering. It is not designed or intended to withstand surface mount processes under any circumstances.

The normal wave soldering process can be used with this device where it is subjected to a maximum wave temperature of 260°C for a period of no more than 10 seconds. Within the constraints of these time and temperature limits, 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 exercised in controlling the manual soldering process within these same time and temperature limits.

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ISO 9001 and 14001 REGISTERED



This product is subject to the following [operating requirements](#) and the [Life and Safety Critical Application Sales Policy](#):  
Refer to: <http://www.murata-ps.com/requirements/>

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