



## FEATURES

- 8000v Isolation Test Voltage
- No External Parts Required
- Remote On/Off
- Low-Barrier Capacitance
- RoHS Compliant
- Synchronizable

## APPLICATIONS

- Biomedical Data Acquisition
- Industrial Process Equipment
- Data Acquisition
- Test Equipment
- Portable Equipment

## DESCRIPTION

The PWR1726AC is a single-channel, bipolar output DC/DC converter designed for those applications where high-isolation voltage and low-barrier capacitance are critical for system reliability and integrity.

Calculated mean-time-to-failure (MTTF) is in excess of 100 years at an ambient temperature of +25°C and at rated output power. The performance of the PWR1726AC is not derated over its entire specified temperature range of -25°C to +85°C.

Synchronization of the PWR1726AC may be accomplished simply by connecting the Sync-In pin of one unit to the Sync-In pin of another unit. Up to 8 converters may be synchronized in this manner.

The PWR1726AC provides a plus and minus output voltage that is approximately equal to the magnitude of the input voltage. The unit operates over an input voltage range of 7VDC to 16VDC.

Each PWR1726AC isolation barrier is tested per the method set forth by UL544, VDE750, and CSA C22.2.



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



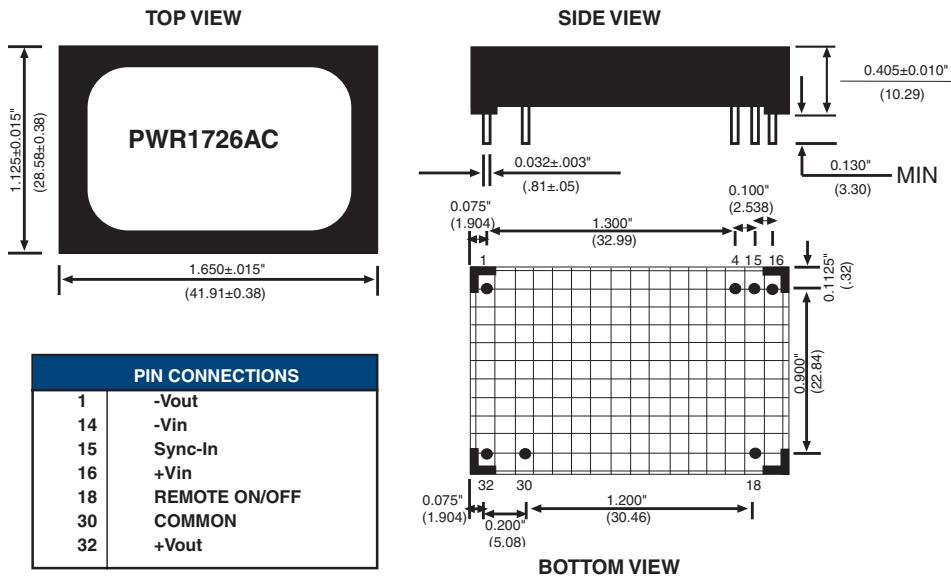
## COMMON SPECIFICATIONS

Specifications typical at  $T_A = +25^\circ\text{C}$ ,  $V_{IN} = 15\text{VDC}$ ,  $I_{QAD} = \pm 50\text{mA}$  and in free-running mode unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>					
Rated Voltage			12		V <sub>D</sub> C
Voltage Range			30		V <sub>D</sub> C
Input Current	$I_{LOAD} = 0$ $I_{LOAD} = \text{Rated Load}$	7	145	16	mA
Ripple Current	Short Circuit $I_{LOAD} = \text{Rated Load}$		115 15	165	mA mA mA mA mA mA <sub>p-p</sub>
<b>ISOLATION</b>					
Voltage Rated Continuous					
AC, 60Hz		3500			V <sub>r</sub> ms
DC		5000			V <sub>D</sub> C
Test Voltage	60sec, 60Hz	8000			V <sub>p</sub> k
Resistance			10		G $\Omega$
Capacitance			10		pF
Leakage Current	$V_{ISO} = 240\text{VAC}, 60\text{Hz}$		1	2	$\mu\text{A}$
<b>OUTPUT</b>					
Rated Voltage	$I_{LOAD} = \text{Rated Load}$		$\pm 15$		V <sub>D</sub> C
Voltage Range	$I_{LOAD} = \text{Rated Load}$	$\pm 14.25$		$\pm 15.75$	V <sub>D</sub> C
$I_{LOAD} = 0\text{mA}$		$\pm 16.0$	$\pm 16.5$	$\pm 18.0$	V <sub>D</sub> C
Rated Current	Balanced Loads		$\pm 50$		mA
Current Range	Balanced Loads	0		$\pm 90$	mA
	Single Ended	0		180	mA
Line Regulation	$7\text{VDC} < V_{IN} < 18\text{VDC}$		1.16		mV/mV
Load Regulation	No Load $< I_{OUT} < \pm 50\text{mA}$			0.3	%/mA
Ripple Voltage	BW = DC to 10MHz				
	$I_{LOAD} = 0$		15		mV <sub>p-p</sub>
	$I_{LOAD} = \text{Rated Load}$		50		mV <sub>p-p</sub>
					(referenced to common)
<b>GENERAL</b>					
MTTF	Calculated per MIL - HDBK - 217 Rev. E				
	Ground, Benign 25° C				
Switching Frequency			1.2 120		MHz kHz
<b>TEMPERATURE</b>					
Specification		-25	+25	+85	°C
Operation		-40		+100	°C
Storage		-55		+110	°C

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

## MECHANICAL



**NOTES:**

All dimensions are in inches  
(millimeters).

GRID: 0.100 inches (2.54 millimeters)

PIN PLACEMENT TOLERANCE:  
 $\pm 0.015"$

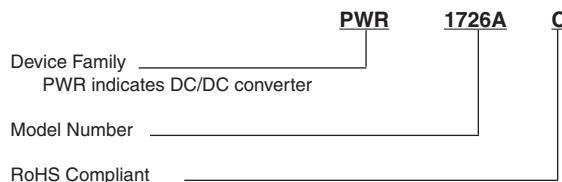
To ensure proper operation, the remote on/off pin should be connected to +Vin when the unit is on.

**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; lead finish is matte Sn (100 microinches minimum) over Ni (40-80 microinches)

## ABSOLUTE MAXIMUM RATINGS

Input Voltage ..... 16Vdc  
 Output Short-Circuit Duration ..... Continuous  
 Internal Power Dissipation ..... 2W  
 Lead Temperature (soldering, 10 seconds max) ..... +300°C

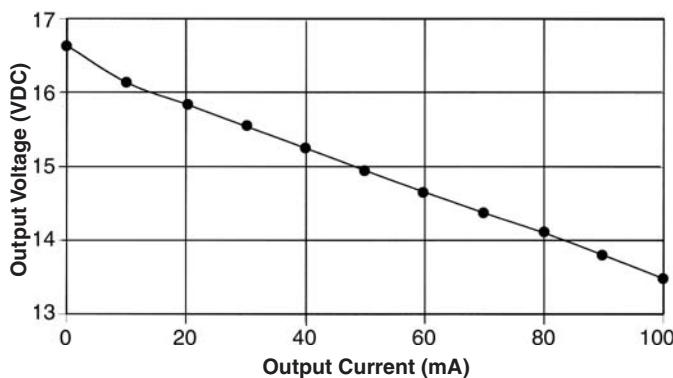
## ORDERING INFORMATION



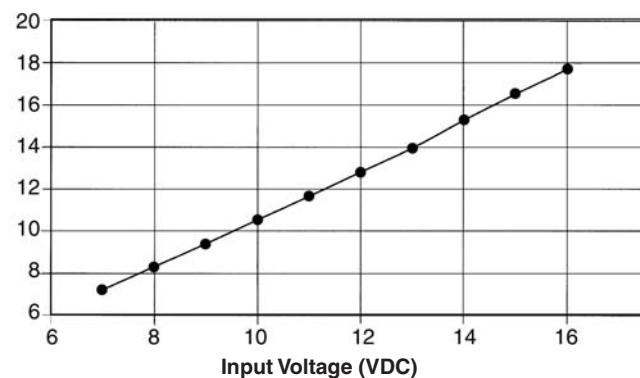
## TYPICAL PERFORMANCE CURVES

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

## OUTPUT VOLTAGE VS. OUTPUT CURRENT



## OUTPUT VOLTAGE VS. INPUT VOLTAGE



## THROUGH-HOLE SOLDERING INFORMATION

These 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.

## SYNCHRONIZATION INFORMATION

The unit may be synchronized to an external clock. Recommended frequency is a minimum of 110kHz and a maximum of 250kHz. The sync signal must be a square wave pulse with a peak of 7.5V min to 12V max, the amplitude being referenced to -Vin.



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