

## 1.5 WATT UNREGULATED DC/DC CONVERTER

# PWR1726A/PWR1726A1



### FEATURES

- 8000V ISOLATION TEST VOLTAGE
- NO EXTERNAL PARTS REQUIRED
- SYNCHRONIZABLE
- REMOTE ON/OFF
- LOW-BARRIER CAPACITANCE

### APPLICATIONS

- BIOMEDICAL DATA ACQUISITION
- INDUSTRIAL PROCESS EQUIPMENT
- DATA ACQUISITION
- TEST EQUIPMENT
- PORTABLE EQUIPMENT

### DESCRIPTION

The PWR1726A/PWR1726A1 is a single-channel, dual-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 PWR1726A/PWR1726A1 is not derated over its entire specified temperature range of -25°C to +85°C.

Synchronization of the PWR1726A/PWR1726A1 may be

accomplished simply by connecting the sync pin of one unit to the sync pin of another unit. In this manner, up to eight converters may be ganged together.

The PWR1726A/PWR1726A1 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 PWR1726A/PWR1726A1 isolation barrier is tested per the method set forth by UL544, VDE750, and CSA C22.2.

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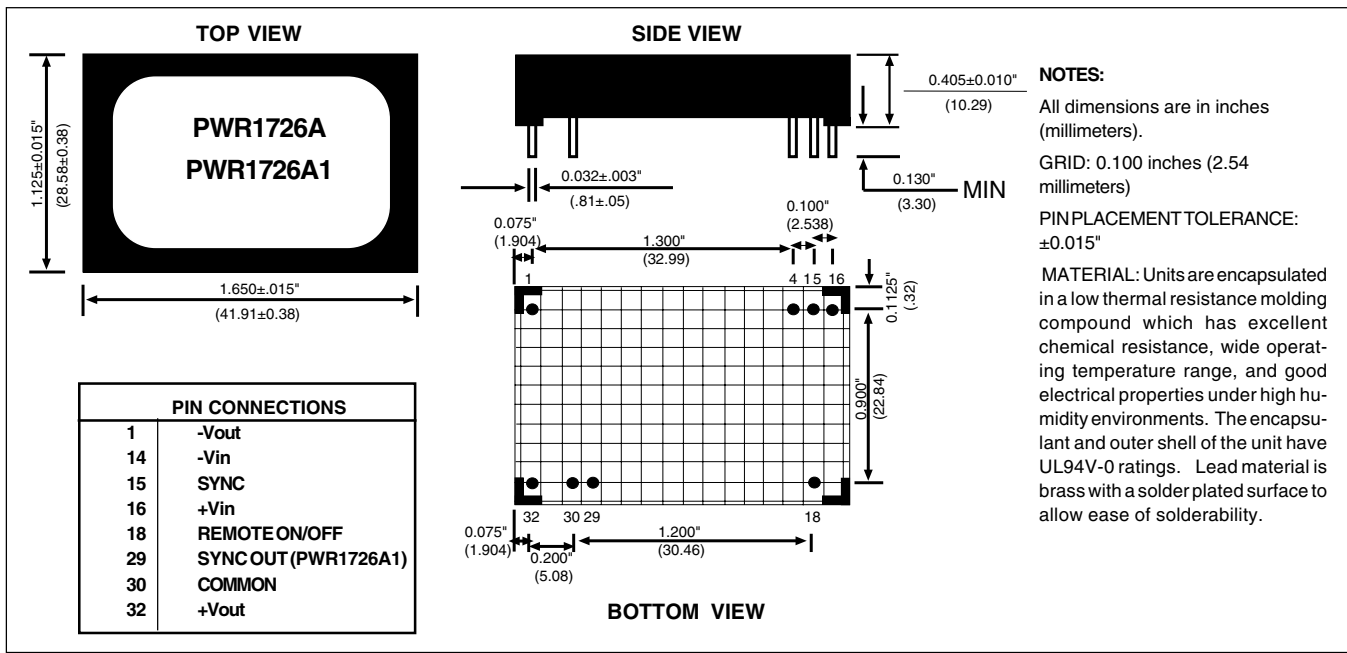
# COMMON SPECIFICATIONS

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

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>					
Rated Voltage			12		V <sub>DC</sub>
Voltage Range		7		16	V <sub>DC</sub>
Input Current	$I_{LOAD} = 0$		30		mA
	$I_{LOAD} = \text{Rated Load}$		145	165	mA
	Short Circuit		115		mA
Ripple Current	$I_{LOAD} = \text{Rated Load}$		15		mAp-p
<b>ISOLATION</b>					
Voltage Rated Continuous		3500			V <sub>rms</sub>
AC, 60Hz		5000			V <sub>DC</sub>
DC		8000			V <sub>pk</sub>
Test Voltage	60sec, 60Hz				V <sub>pk</sub>
Resistance			10		GΩ
Capacitance			10		pF
Leakage Current	$V_{ISO} = 240\text{VAC}, 60\text{Hz}$		1	2	μA
<b>OUTPUT</b>					
Rated Voltage	$I_{LOAD} = \text{Rated Load}$		±15		V <sub>DC</sub>
Voltage Range	$I_{LOAD} = \text{Rated Load}$	±14.25		±15.75	V <sub>DC</sub>
	$I_{LOAD} = 0\text{mA}$	±16.0		±18.0	V <sub>DC</sub>
Rated Current	Balanced Loads		±50		mA
Current Range	Balanced Loads	0		±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				mVp-p
	$I_{LOAD} = 0$		15		mVp-p
	$I_{LOAD} = \text{Rated Load}$		50		mVp-p
Sync Out (PWR1726-A1 only)	$V_{IN} = 12\text{VDC}, V_{OUT} = \text{Rated, Balanced}$		30		Vp-p
(referenced to common)					
<b>GENERAL</b>					
MTTF	Calculated per MIL - HDBK - 217 Rev. E Ground, Benign 25° C		1.2		MHr
Switching Frequency			120		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



## ABSOLUTE MAXIMUM RATINGS

Input Voltage .....	18Vdc
Output Short-Circuit Duration .....	Continuous
Internal Power Dissipation .....	2W
Lead Temperature (soldering, 10 seconds max) .....	+300°C

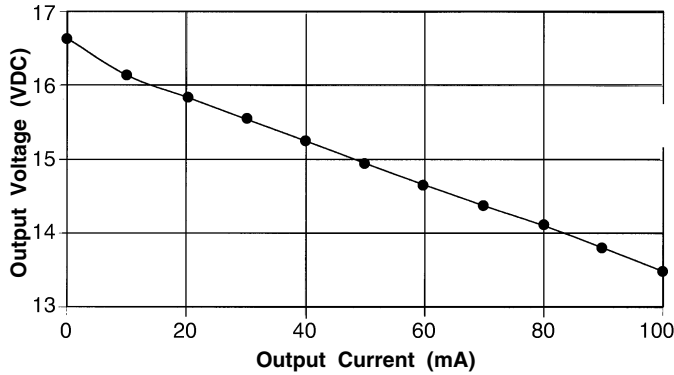
## ORDERING INFORMATION

Device Family	PWR	1726A	1
PWR indicates DC/DC converter			
Model Number			
Sync Out			

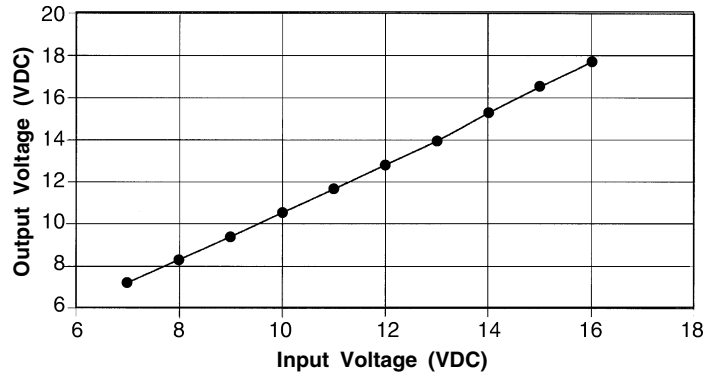
## TYPICAL PERFORMANCE CURVES

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

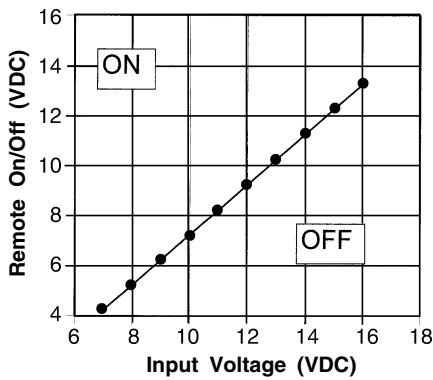
### OUTPUT VOLTAGE VS. OUTPUT CURRENT



### OUTPUT VOLTAGE VS. INPUT VOLTAGE



## REMOTE ON/OFF CONTROL



If no connection is made to "Remote ON/OFF" pin, the converter will operate normally.

## 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 12.0V max, the amplitude being referenced to -Vin.

