C&D TECHNOLOGIES

Product Data Sheet

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

ISO9001 CERTIFIED

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.

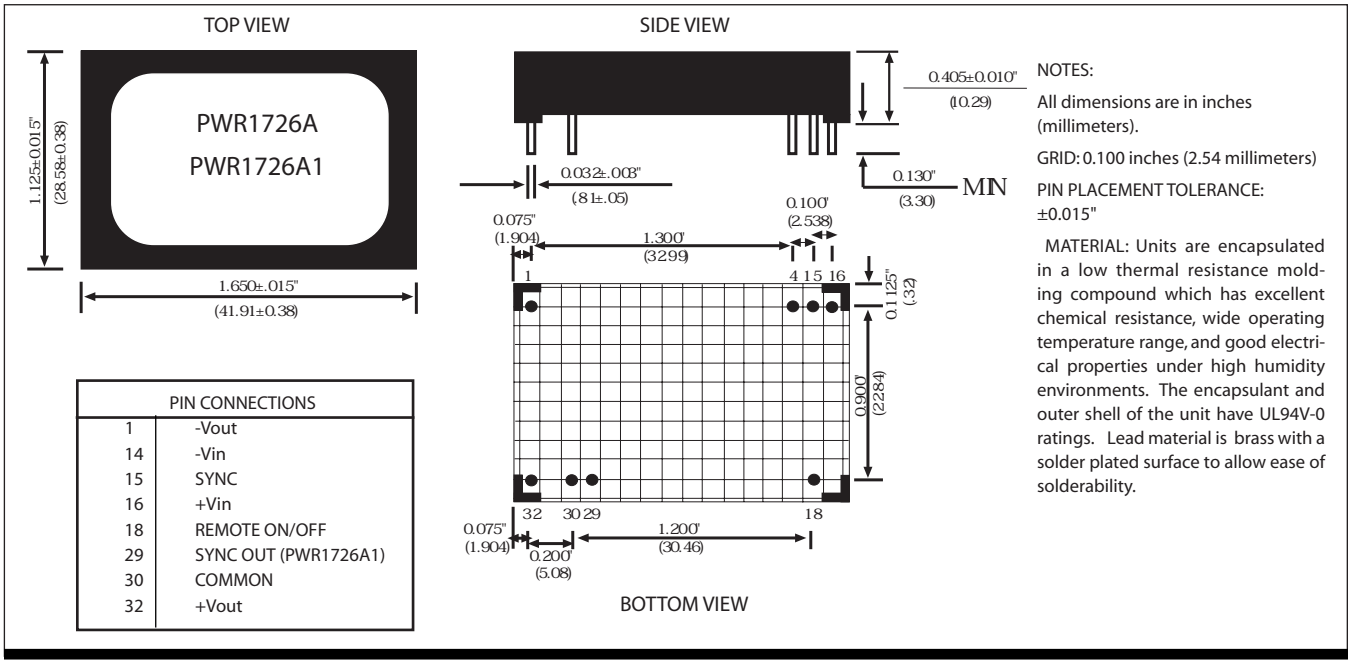
COMMON SPECIFICATIONS

Specifications typical at T_A = +25°C, V_{IN} = 15VDC, I_{LOAD} = ±50mA and in free-running mode unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT					
Rated Voltage			12		VDC
Voltage Range		7		16	VDC
Input Current	I_{LOAD} = 0		30		mA
	I_{LOAD} = Rated Load		145	165	mA
	Short Circuit		115		mA
Ripple Current	I_{LOAD} = Rated Load		15		mAp-p
ISOLATION					
Voltage Rated Continuous					
AC, 60Hz		3500			Vrms
DC		5000			VDC
Test Voltage	60sec, 60Hz	8000			Vpk
Resistance			10		GW
Capacitance			10		pF
Leakage Current	V_{ISO} = 240VAC, 60Hz		1	2	µA
OUTPUT					
Rated Voltage	I_{LOAD} = Rated Load		±15		VDC
Voltage Range	I_{LOAD} Rated Load	±14.25		±15.75	VDC
	I_{LOAD} = OmA	±16.0	±16.5	±18.0	VDC
Rated Current	Balanced Loads		±50		mA
Current Range	Balanced Loads	0		±90	mA
	Single Ended	0		180	mA
Line Regulation	7VDC < V_{IN} < 18VDC		1.16		mV/mV
Load Regulation	No Load < I_{OUT} < ±50mA			0.3	%/mA
Ripple Voltage	BW = DC to 10MHz				
	I_{LOAD} = 0		15		mVp-p
	I_{LOAD} = Rated Load		50		mVp-p
Sync Out (PWR1726-A1 only)	Vin = 12VDC, Vout = Rated, Balanced		30		Vp-p (referenced to common)
GENERAL					
MTTF	Calculated per MIL - HDBK - 217 Rev. E Ground, Benign 25° C		1.2		MHr
Switching Frequency			120		kHz
TEMPERATURE					
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



PIN CONNECTIONS	
1	-Vout
14	-Vin
15	SYNC
16	+Vin
18	REMOTE ON/OFF
29	SYNC OUT (PWR1726A1)
30	COMMON
32	+Vout

NOTES:

All dimensions are in inches (millimeters).

GRID: 0.100 inches (2.54 millimeters)

PIN PLACEMENT TOLERANCE: ±0.015"

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

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

ORDERING INFORMATION

PWR 1726A 1

Device Family
PWR indicates DC/DC converter

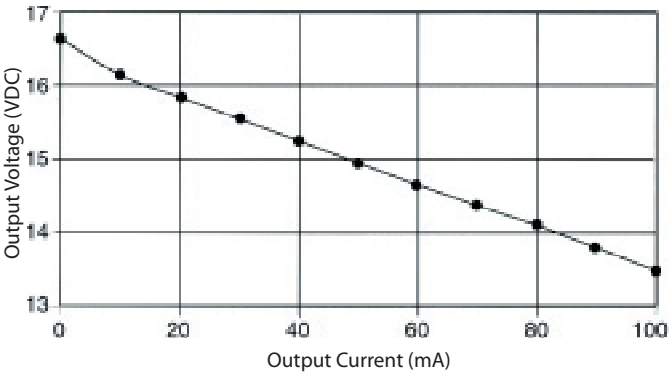
Model Number

Sync Out

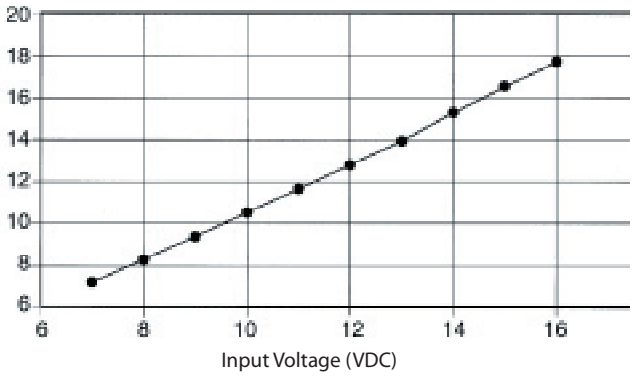
TYPICAL PERFORMANCE CURVES

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

OUTPUT VOLTAGE VS. OUTPUT CURRENT



OUTPUT VOLTAGE VS. INPUT VOLTAGE



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.

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ENGINEERING NOTES