

Product Data Sheet

1.5 WATT UNREGULATED DC/DC CONVERTER



PWR1726



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 PWR1726 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 PWR1726 is not derated over its entire specified temperature range of -25°C to +85°C.

Synchronization of the PWR1726 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 PWR1726 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 18VDC.

Each PWR1726 isolation barrier is tested per the method set forth by UL544, VDE750, and CSA C22.2.

Internet: http://www.cdpowerelectronics.com

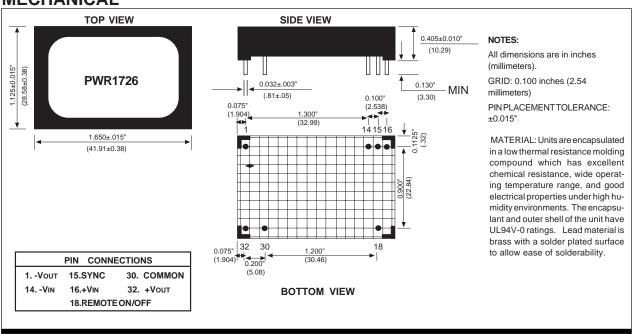
COMMON SPECIFICATIONS

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

NPUT Rated Voltage Voltage Range Part Par	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Voltage Range Pout Current Pout Pout Pout Pout Pout Pout Pout Pout	INPUT					
Input Current	Rated Voltage			15		VDC
Ripple Current	Voltage Range		7		18	VDC
Ripple Current	Input Current	$I_{1,OAD} = 0$		30		mA
Short Circuit 115		I _{LOAD} = Rated Load		145	165	mA
SOLATION Voltage Rated Continuous AC, 60Hz DC 5000 5000		Short Circuit		115		mA
Voltage Rated Continuous AC, 60Hz DC 3500 5000 Vrms Test Voltage Resistance Capacitance Leakage Current 60sec, 60Hz 8000 10 Vpk QΩ Capacitance Leakage Current 10 pF Vpk Leakage Current V ₁₅₀ = 240VAC, 60Hz 1 2 μA OUTPUT Rated Voltage Voltage Range I _{LOAB} = Rated Load ±14.25 ±15.75 Vpc Voltage Range I _{LOAB} = OmA ±16.0 ±16.5 ±18.0 Vpc Rated Current Balanced Loads 1.50 mA mA ±50 mA Current Range Balanced Loads 0 ±90 mA MA mA mA Single Ended 0 1.16 mV/mV mV/mV MM M	Ripple Current	I _{LOAD} = Rated Load		15		mAp-p
AC, 60Hz DC 3500 Vrms Voc Test Voltage 60sec, 60Hz 8000 10 QΩ Resistance 10 pF QΩ QΩ Capacitance 10 pF L QQ	ISOLATION					
DC Test Voltage 60sec, 60Hz 8000 8000 Vpc Vpk Resistance 10 GΩ GΩ GΩ Capacitance 10 10 pF Leakage Current V _{iso} = 240VAC, 60Hz 1 2 µA	Voltage Rated Continuous					
Test Voltage	AC, 60Hz		3500			Vrms
Resistance Capacitance Capacitance Capacitance Leakage Current V _{ISO} = 240VAC, 60Hz 1	DC		5000			VDC
Capacitance Leakage Current V _{ISO} = 240VAC, 60Hz 10 2 pF μA OUTPUT Rated Voltage Voltage Range I LOAD = Rated Load I LOAD Rated Load I LOAD Rated Load I LOAD Rated Load I LOAD = OMA END RATED RATE	Test Voltage	60sec, 60Hz	8000			Vpk
Leakage Current V See 240VAC, 60Hz 1 2	Resistance			10		GΩ
OUTPUT Rated Voltage I LOAD = Rated Load ±15 VDC Voltage Range I LOAD = Rated Load ±14.25 ±15.75 VDC Rated Current Balanced Loads ±16.5 ±18.0 VDC Rated Current Range Balanced Loads 0 ±50 mA Current Range Balanced Loads 0 ±90 mA Line Regulation 7VDC < V _N < 18VDC	Capacitance			10		pF
Rated Voltage Voltage Range Voltage Volt	Leakage Current	V _{ISO} = 240VAC, 60Hz		1	2	μA
Voltage Range I LOAD Rated Load I LOAD POMA ±14.25 ±16.5 ±15.75 ±18.0 VDC Rated Current Range Balanced Loads Balanced Loads 0 ±50 mA Current Range Balanced Loads Balanced Loads 0 ±90 mA Line Regulation 7VDC v V _N <18VDC	OUTPUT					
Voltage Range I l _{DAD} Rated Load ±14.25 ±16.5 ±18.0 Voc Rated Current Balanced Loads ±16.0 ±16.5 ±18.0 Voc Current Range Balanced Loads ±90 mA mA Ey0 Ey0 mA Ey0	Rated Voltage	ILOAD = Rated Load		±15		VDC
Rated Current Balanced Loads Balan	Voltage Range	I _{LOAD} Rated Load	±14.25		±15.75	VDC
Rated Current Balanced Loads E50 MA		I _{LOAD} = OmA	±16.0	±16.5	±18.0	VDC
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated Current	Balanced Loads		±50		mA
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Current Range	Balanced Loads	0		±90	mA
Load Regulation		Single Ended	0		180	mA
Ripple Voltage	Line Regulation	7VDC < V _{IN} < 18VDC		1.16		mV/mV
Ripple Voltage	Load Regulation	No Load < I _{OUT} < ±50mA			0.3	%/mA
Calculated per MIL - HDBK - 217 Rev. E Ground, Benign 25° C TEMPERATURE Specification Coperation Coperation	Ripple Voltage	BW = DC to 10MHz				
Calculated per MIL - HDBK - 217 Rev. E Ground, Benign 25° C TEMPERATURE Specification Coperation Coperation		$I_{1,O\Delta D} = 0$		15		mVp-p
MTTF Calculated per MIL - HDBK - 217 Rev. E Ground, Benign 25° C 1.2 MHr kHz Switching Frequency 120 MHr kHz TEMPERATURE Specification Operation -25 +25 +85 °C Operation -40 +100 °C		I _{LOAD} = Rated Load		50		mVp-p
MIL - HDBK - 217 Rev. E Ground, Benign 25° C	GENERAL					
Ground, Benign 25° C	MITF	Calculated per				
Switching Frequency 120 kHz TEMPERATURE Specification -25 +25 +85 °C Operation -40 +100 °C		MIL - HDBK - 217 Rev. E				
TEMPERATURE Specification -25 +25 +85 °C Operation -40 +100 °C		Ground, Benign 25° C		1.2		MHr
Specification -25 +25 +85 °C Operation -40 +100 °C	Switching Frequency			120		kHz
Operation -40 +100 °C	TEMPERATURE					
	Specification		-25	+25	+85	℃
	Operation		-40		+100	°C
Storage -55 +110 °C	Storage		-55		+110	°C

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

MECHANICAL

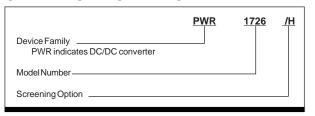


Page 2 PWR1726 10/98 REV B

ABSOLUTE MAXIMUM RATINGS

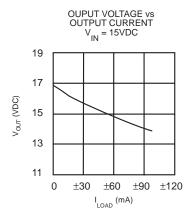
Input Voltage18Vpc
Output Short-Circuit Duration
Internal Power Dissipation
Lead Temperature (soldering, 10 seconds max) +300°C

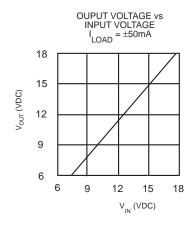
ORDERING INFORMATION



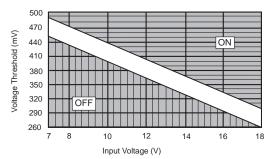
TYPICAL PERFORMANCE CURVES

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





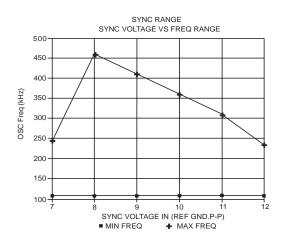
REMOTE ON/OFF CONTROL



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. Recomended frequency is a minimum of 150KHz and a maximum of 225KHz. The sync signal must be a square wave pulse with an amplitude of 0 to +10V. If some other frequency is required, contact factory.



PWR1726 10/98 REV B Page 3

ENGINEERING NOTES

The information provided herein is believed to be reliable; however, C&D TECHNOLOGIES assumes no responsibility for inaccuracies or omissions. C&D TECHNOLOGIES assumes no responsibility for the use of this information, and all use of such information shall be entirely at the user's own risk. Prices and specifications are subject to change without notice. No patent rights or licenses to any of the circuits described herein are implied or granted to any third party. C&D TECHNOLOGIES does not authorize or warrant any C&D TECHNOLOGIES product for use in life support devices/systems or in aircraft control applications.

Page 4 PWR1726 10/98 REV B