POWER CONVERTIBLES™

PWR74 SERIES
3 WATTS
UNREGULATED

DC/DC CONVERTERS

TWO ISOLATED CHANNELS

FEATURES

- TESTED IN COMPLIANCE WITH UL544
- OUTPUT POWER TO 3W
- HIGH ISOLATION VOLTAGE: 1500VDC
- SIX-SIDED SHIELDING
- INPUT AND OUTPUT FILTERING
- LOW PROFILE PACKAGE: 0.4" HIGH

APPLICATIONS

- POWER FOR DATA ACQUISITION, OP AMPS, ETC.
- PROCESS CONTROL
- PORTABLE EQUIPMENT
- TEST EQUIPMENT

DESCRIPTION

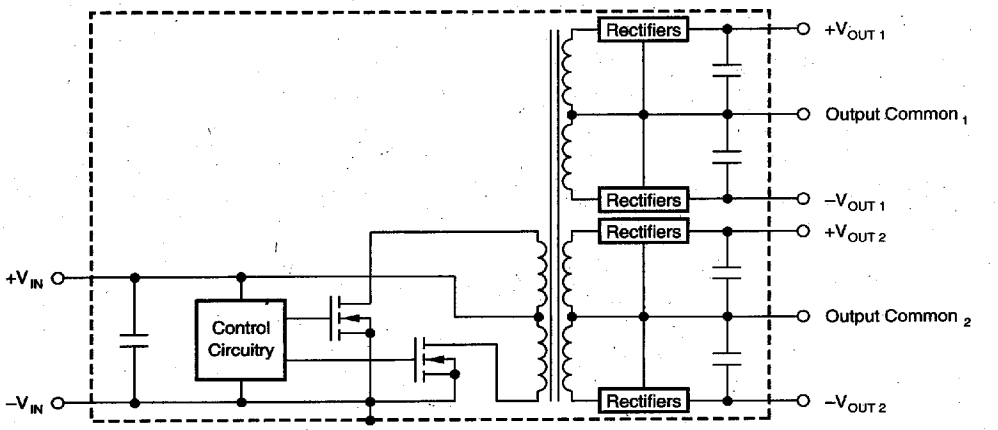
The PWR74 is a two-channel, dual-output DC/DC converter designed for general purpose power conversion applications where high efficiency is more important than load regulation.

The PWR74 provides two isolated plus and minus output voltages approximately equal to the input voltage magnitude. It operates over an input voltage range of 10VDC to 20VDC. Isolation voltage is a minimum of 1500VDC.

Six-sided shielding suppresses electromagnetic radiation which could disturb sensitive analog measurements or interfere with system timing signals. Input filtering minimizes reflected ripple current. Output ripple voltage and switching transients are reduced by filtering the PWR74 outputs.

Momentarily connecting an output pin to its output common will not damage the PWR74. Short-circuit protection is accomplished by using power MOSFETs in the PWR74's input circuitry.

The PWR74 is tested in compliance with UL544, VDE750, and CSA C22.2 dielectric withstand voltage requirements for primary circuits.



ELECTRICAL SPECIFICATIONS

At T_A = +25°C, $+V_{IN}$ = 15VDC, and I_{OUT} = ±25mA unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT					
Rated Voltage			15		VDC
Voltage Range		10		20	VDC
Input Current	I_{OUT} = No Load		55	75	mA
	I_{OUT} = Rated Load		155	175	mA
Ripple Current	I_{OUT} = No Load		80		mAp-p
	I_{OUT} = Rated Load		100		mAp-p
ISOLATION					
Rated Voltage[1]		1500			VDC
Test Voltage	60s, 60Hz	4000			Vpk
Resistance			10		GΩ
Capacitance			12		pF
Leakage Current	V_{ISO} = 240VAC, 60Hz			2	µA
OUTPUT					
Rated Voltage	–25°C - T_A - +85°C		±15		VDC
Voltage Accuracy				5	%
Rated Current	–25°C - T_A - +85°C		±25		mA
Current Range		0		±50	mA
Line Regulation	10VDC - V_{IN} - 20VDC		1.15		V/V
Load Regulation	±5mA - I_{LOAD} - ±25mA		18		mV/mA
Ripple Voltage	I_{OUT} - No Load		20		mVp-p
	I_{OUT} - Rated Load		40	100	mVp-p
TEMPERATURE					
Specification		–25		+85	°C
Operating		–55		+125	°C
Storage		–65		+150	°C

NOTE: (1) Ratings apply input-to-input and are typical channel-to-channel.

ABSOLUTE MAXIMUM RATINGS

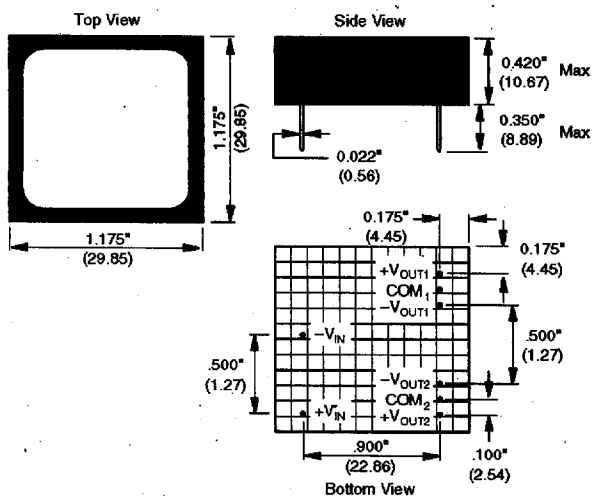
Input Voltage	20VDC
Output Current	±100mA
Output Short-Circuit Duration	45s

ORDERING INFORMATION

PWR 74 /H

- Device Family: PWR indicates DC/DC converter
- Model Number
- Reliability Screening: No designator indicates standard manufacturing processing

MECHANICAL



NOTES: All dimensions are in inches (millimeters).

GRID: 0.100 inches (2.54 millimeters)

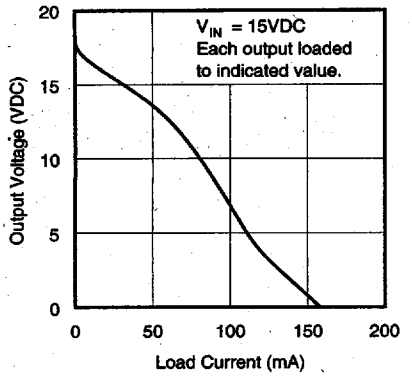
WEIGHT: 15gm (0.53 oz.)

Marked with: specific model ordered, date code, job code.

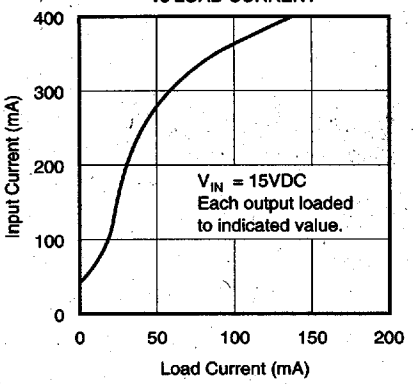
MATERIAL: Units are encapsulated in a low thermal resistance molding compound which has excellent chemical resistance, wide operating temperature range, and good electrical properties under high humidity environments. Lead material is brass with a solder plated surface to allow ease of solderability.

TYPICAL PERFORMANCE CURVES

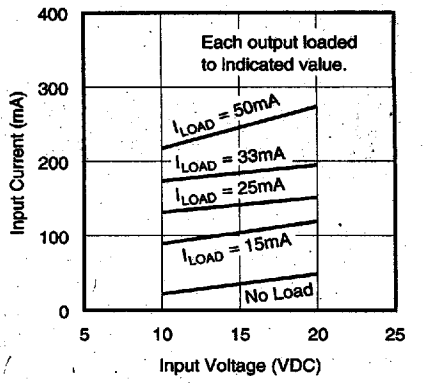
OUTPUT VOLTAGE
vs LOAD CURRENT



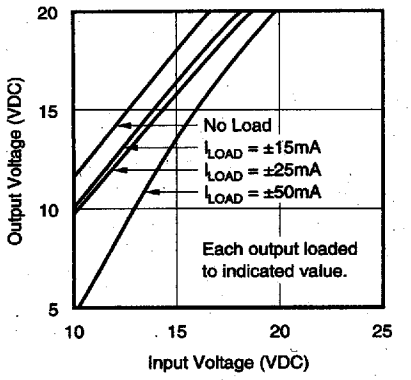
INPUT CURRENT
vs LOAD CURRENT



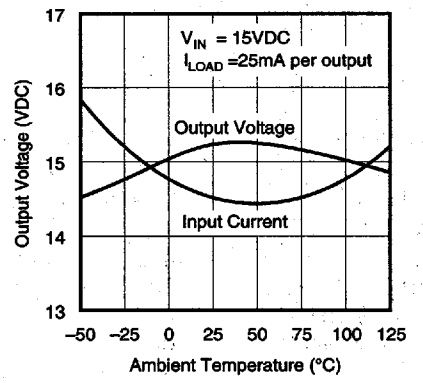
INPUT CURRENT
vs INPUT VOLTAGE



OUTPUT VOLTAGE
vs INPUT VOLTAGE



PERFORMANCE
vs TEMPERATURE



OUTPUT POWER DERATING