POWER CONVERTIBLES™

PWR71 SERIES
3 WATTS
UNREGULATED

DC/DC CONVERTERS

FOUR ISOLATED CHANNELS

FEATURES

- TESTED IN COMPLIANCE WITH UL544
- OUTPUT POWER TO 3W
- HIGH ISOLATION VOLTAGE: 1000VDC
- 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 PWR71 is a four-channel, dual-output unregulated DC/DC converter designed for general purpose power conversion applications where high efficiency is more important than load regulation.

The PWR71 has four isolated plus and minus output voltages approximately equal to the magnitude of the input voltage. It operates over an input voltage range of 10VDC to 18VDC. Rated output current for the PWR71 is 25mA per output or a total of 200mA for all outputs.

Isolation voltage between the input and any of the four output circuits is 1000VDC continuous. This same isolation specification applies between any of the four channels.

A continuous connection between an output and its common will not damage the PWR71. Short circuit protection is accomplished by using power MOSFETs in the PWR71 input circuitry.

Six-sided shielding suppresses electromagnetic radiation which could disturb sensitive analog measurements or interfere with system timing signals. Filtering the PWR71 input and outputs minimizes the effects of electrical noise on the source and loads of the converter.

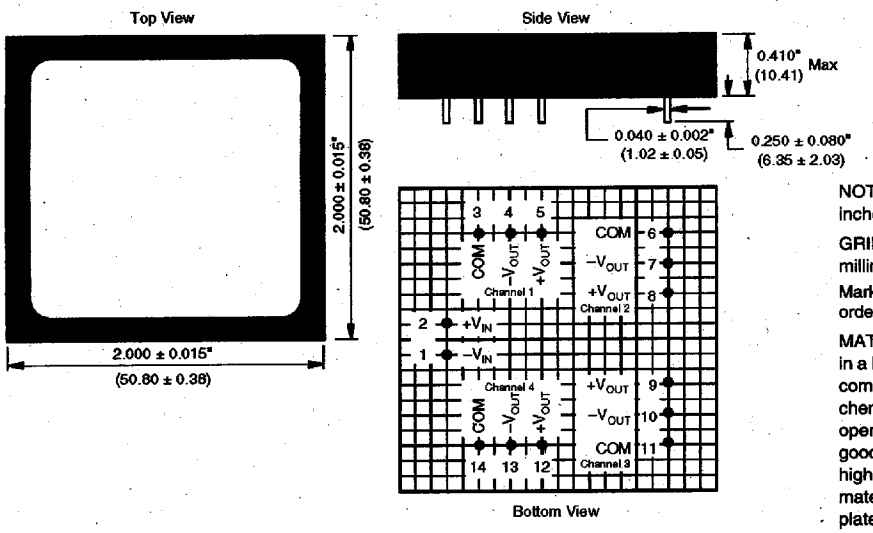
Each PWR71 is tested in compliance with UL544, VDE750, and CSA C22.2 dielectric withstand specifications. In addition, barrier leakage current is 100% tested.

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		18	VDC
Input Current	I_{LOAD} = 0		50		mA
	I_{LOAD} = Rated Load		280	375	mA
Ripple Current	I_{LOAD} = 0		30		mApk
	I_{LOAD} = Rated Load		80		mAp-p
ISOLATION					
Rated Voltage		1000			VDC
Test Voltage	60s, 60Hz	3000			Vpk
Resistance			10		GΩ
Capacitance			10		pF
Leakage Current	V_{ISO} = 240VAC, 60Hz			3	µA
OUTPUT					
Rated Voltage			±15		VDC
Voltage Range	I_{OUT} = No Load	±15		±18	VDC
	I_{OUT} = Rated Load	±14.25		±15.75	VDC
Rated Power		3			W
Rated Current	Each Channel	±25			mA
	Total of All Outputs	200			mA
Current Range	Each Channel	0		±40	mA
	Total of All Outputs	0		500	mA
Line Regulation	10VDC ~ V_{IN} ~ 18VDC		1.08		V/V
Load Regulation	0mA ~ I_{LOAD} ~ 25mA		35		mV/mA
Ripple Voltage	I_{LOAD} = 0		10		mVp-p
	I_{LOAD} = Rated Load			100	mVp-p
TEMPERATURE					
Specification		–25		+85	°C
Operating		–40		+100	°C
Storage		–55		+125	°C

MECHANICAL



NOTES: All dimensions are in inches (millimeters).

GRID: 0.100 inches (2.54 millimeters)

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.

ABSOLUTE MAXIMUM RATINGS

Input Voltage	18VDC
Output Current	500mA
Output Short-Circuit Duration	Continuous

ORDERING INFORMATION

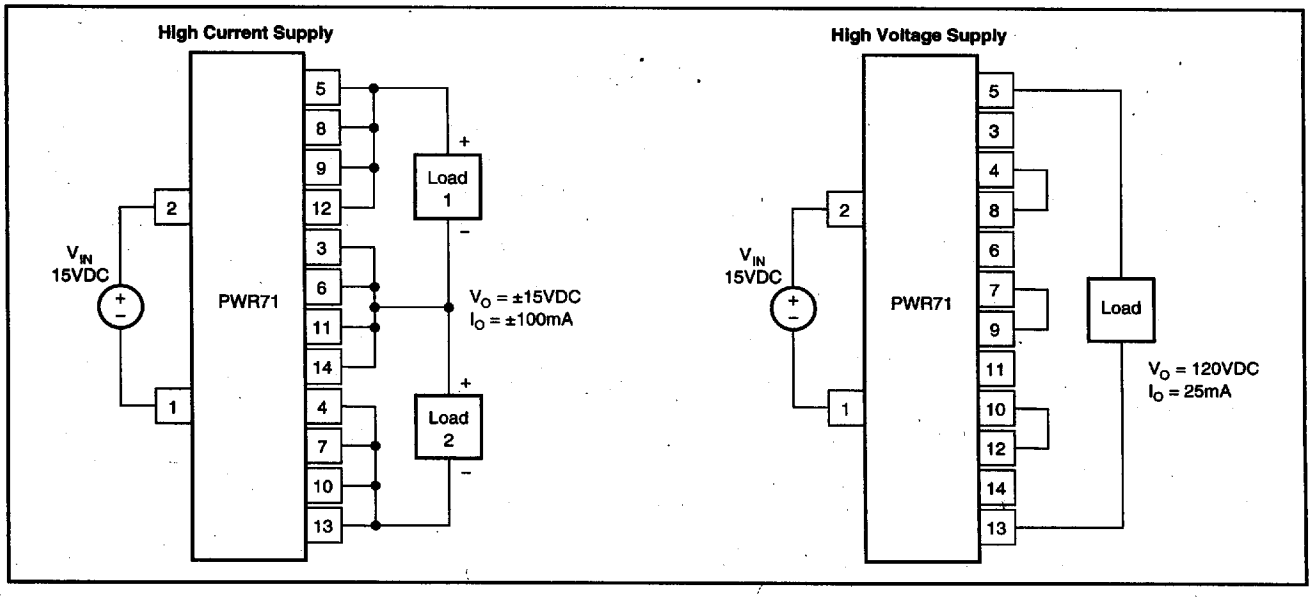
PWR 71 /H

Device Family
PWR indicates DC/DC converter

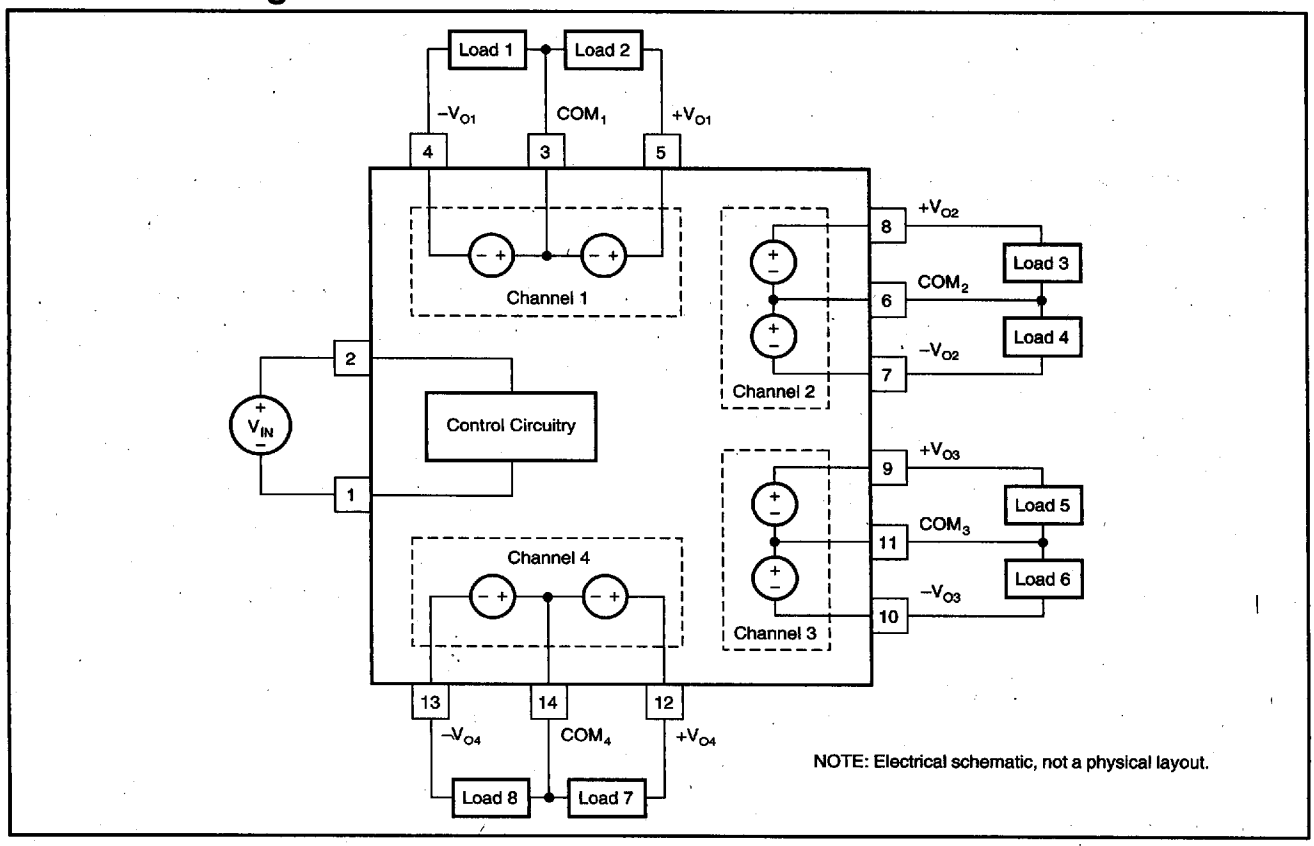
Model Number

Reliability Screening
No designator indicates standard manufacturing processing

TYPICAL APPLICATIONS



Connection Diagram

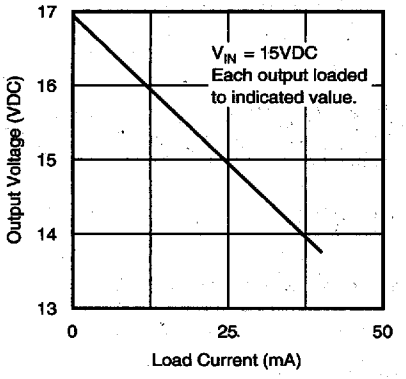


NOTE: Electrical schematic, not a physical layout.

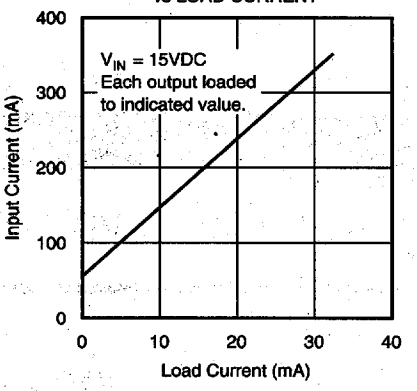
TYPICAL PERFORMANCE CURVES

T_A = +25°C, rated input voltage, rated output current unless otherwise noted.

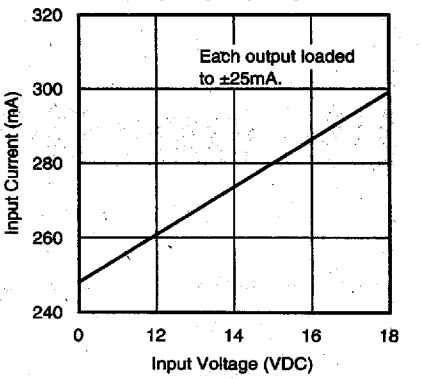
OUTPUT VOLTAGE vs LOAD CURRENT



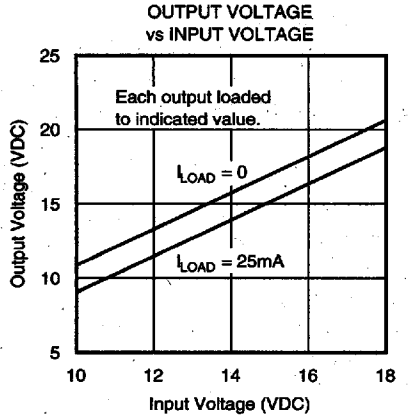
INPUT CURRENT vs LOAD CURRENT



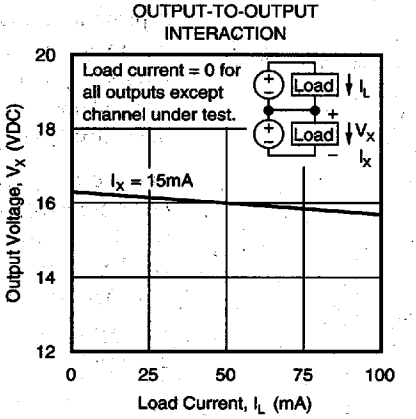
INPUT CURRENT vs INPUT VOLTAGE



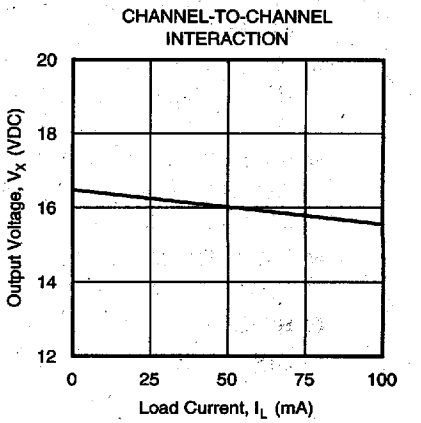
OUTPUT VOLTAGE vs INPUT VOLTAGE



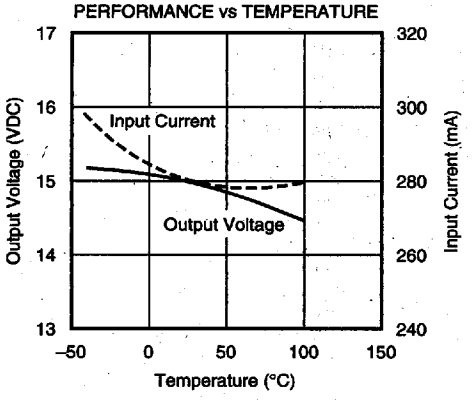
OUTPUT-TO-OUTPUT INTERACTION



CHANNEL-TO-CHANNEL INTERACTION



PERFORMANCE vs TEMPERATURE



OUTPUT POWER DERATING