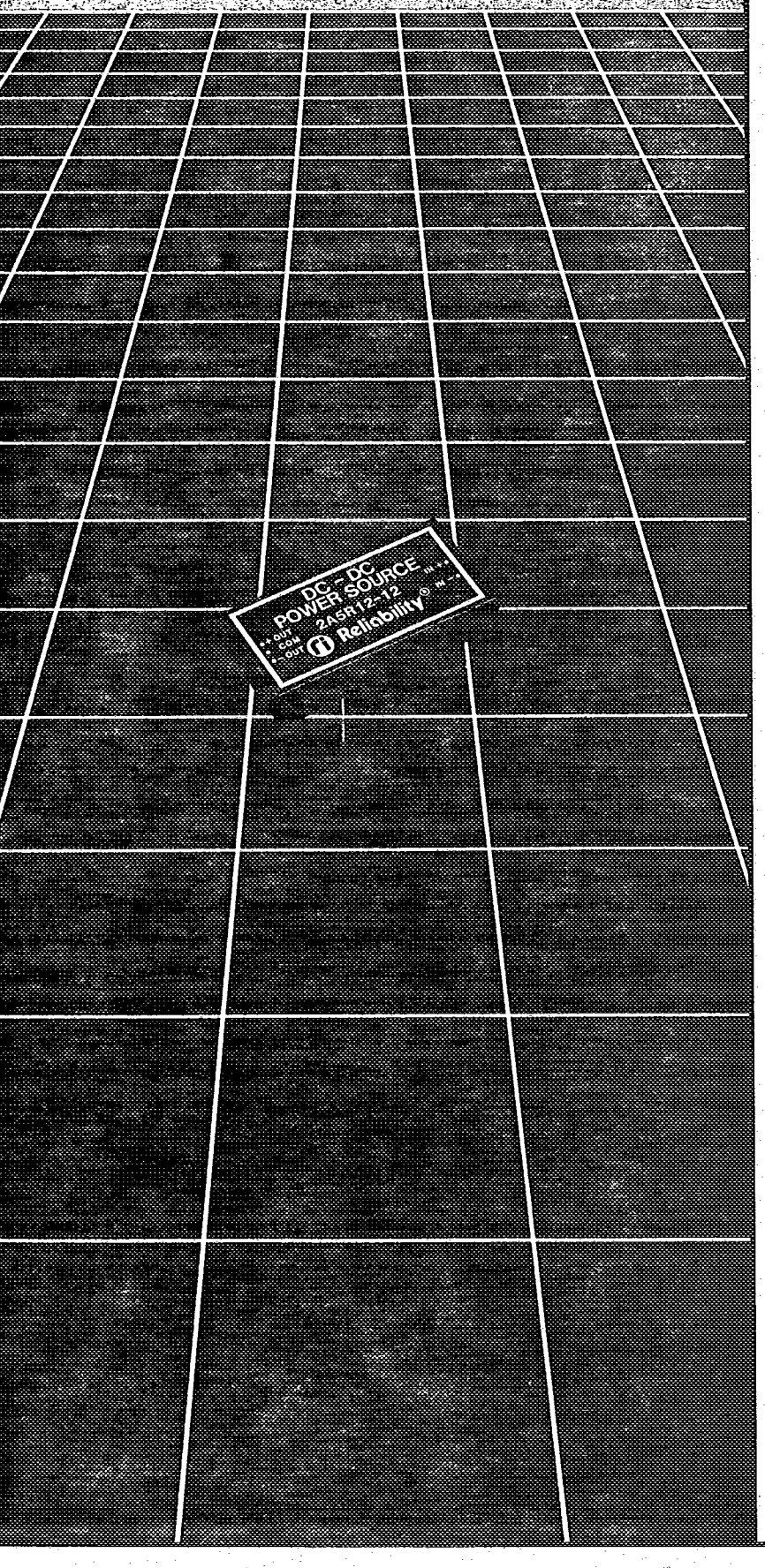
2 WATT REGULATED

DC/DC CONVERTERS 2VP5R12-12 AND 2A SERIES



FEATURES

- High power - density
- Input/Output isolated
- PC mountable, low profile
- Designed for analog power requirements
- Dual regulated outputs
- Continuous short circuit protected, self recovering
- Thermal overload protected
- Designed to meet FCC Sec 15, Sub Part J, A&B
- 0.5% line and load regulation
- No derating to 71°C
- 100% burned-in and triple tested
- 3 year warranty

GENERAL DESCRIPTION

The 2 Watt regulated DC/DC converters operate from an input of 5VDC and make available at board level dual outputs of ± 12 or ± 15 VDC. The series operates without derating or heatsinking over the full temperature range. Solid tantalum capacitors are used for enhanced reliability. The units are designed for analog applications such as OP-AMPS, A/D, D/A and F/V converters. They can also be used for negative voltage bias applications.

GENERAL ELECTRICAL SPECIFICATIONS

(Specifications at Nominal Input and 25°C)

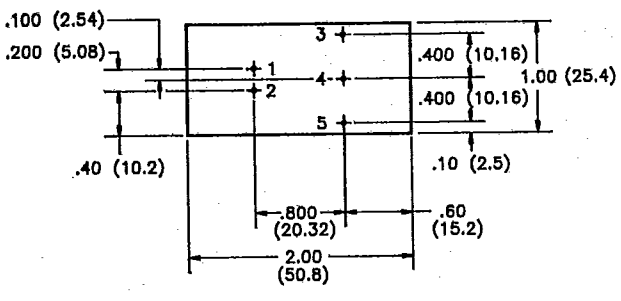
PARAMETER	LIMIT	CONDITIONS
Input Voltage Range	4.75 - 5.25VDC	2VP5R12-12
	4.5 - 5.5VDC	2A5R12-12 & 2A5R15-15
Input Filter	Filter Capacitor	2VP5R12-12 (See filtering options)
	Common Mode Input Inductor	2A5R12-12 & 2A5R15-15
Reflected Input Ripple	80 ma P-P (Max.)	
Input/Output Isolation		
Voltage	500 VDC (Min.)	All Device Types
Resistance	10^3 megohms (Min.)	
Output Accuracy	±5%	Nom. Line at Full Load
Load Regulation	0.5%	No Load to Full Load
Line Regulation	0.5%	Low Line to High Line
Output Voltage Temperature Coefficient	±.015%/°C	Typical
Output Noise/Ripple	100 mV P-P (Max.)	2VP5R12-12 20HZ-20MHZ Bandwidth
	50 mV, P-P (Max.)	2A5R12-12 & 2A5R15-15 20HZ-20MHZ Bandwidth
Short Circuit Protection	Current Limited	2VP5R12-12
	Constant Current	2A5R12-12 & 2A5R15-15
Duration	Continuous	
Switching Frequency	100 KHZ Typical	2VP5R12-12
	40KHZ Typical	2A5R12-12 & 2A5R15-15
Operating Temperature	-25°C to +71°C	
Derating	None	To 71°C
Storage Temperature	-55°C to +125°C	

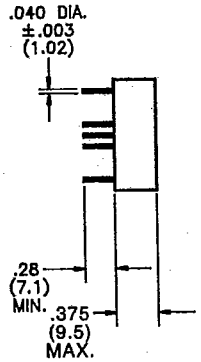
SELECTION GUIDE STANDARD PRODUCTS

DEVICE TYPE	INPUT VOLTAGE RANGE (VDC)	INPUT CURRENT A (MAX)	OUTPUT VOLTAGE VDC	OUTPUT CURRENT ma	PACKAGE
2VP5R12-12	4.75 - 5.25	.700	±12	±80	2V
2A5R12-12	4.5 - 5.5	.660	±12	±75	2A
2A5R15-15	4.5 - 5.5	.660	±15	±60	2A

MECHANICAL DIMENSIONS AND PIN CONNECTIONS

2A



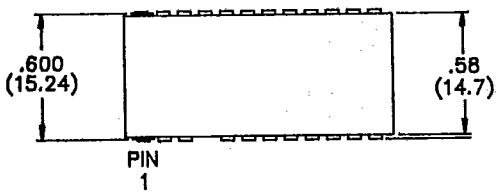


PIN	PIN CONNECTIONS
1	+ INPUT
2	– INPUT
3	+ OUTPUT
4	COMMON
5	– OUTPUT

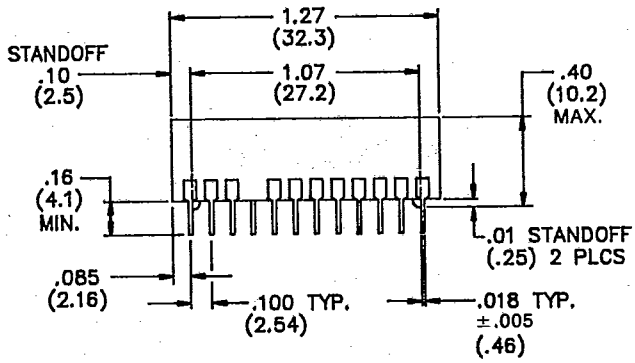
Note: All dimensions in parentheses are mm.
Tolerances unless otherwise specified: .XX ±.03
.XXX ±.010

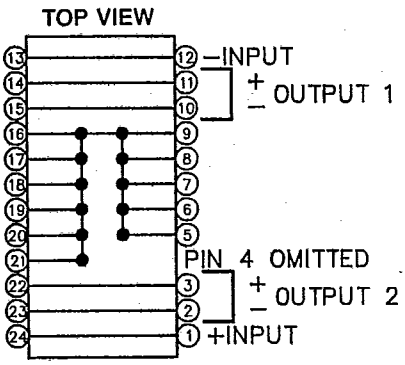
2V

TOP

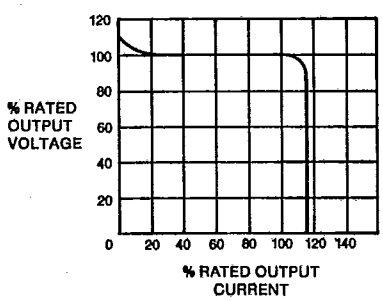


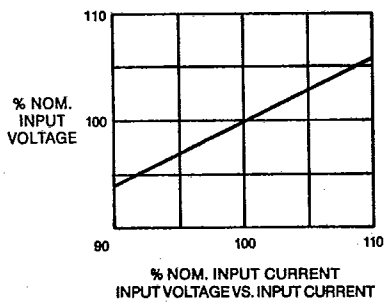
SIDE

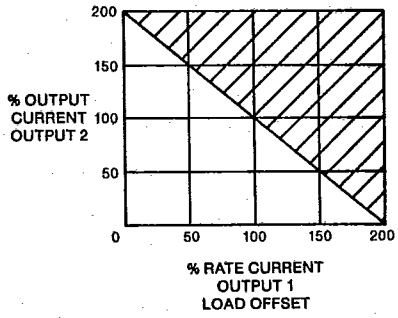




PERFORMANCE DATA

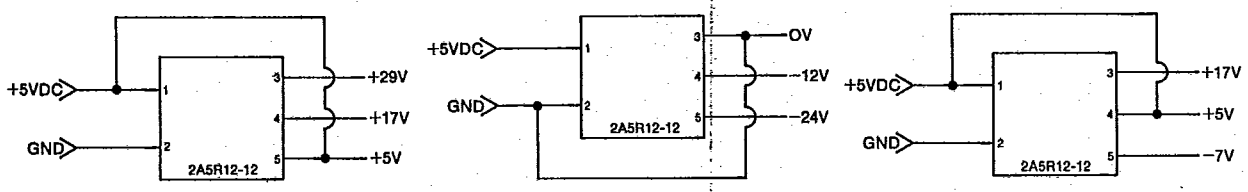






Note: All units may limit either output current to 100ma.

OUTPUT CONFIGURATION OPTIONS

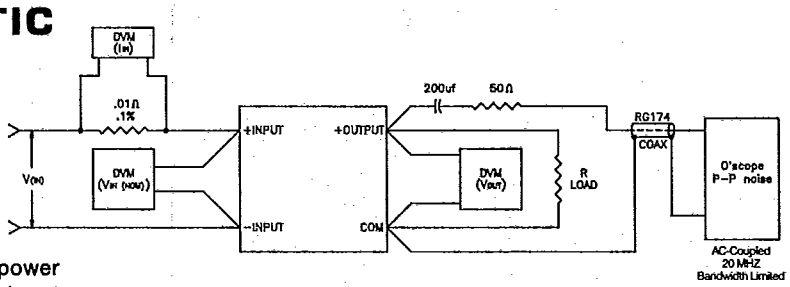


Standard isolated outputs: ± 12, ± 15VDC
Combined isolated outputs: 24, 30VDC
Combined non-isolated outputs: -7, -12, -15, -24, -30, +17, +20, +29, +35, +36, +42VDC

- Achieving these voltages is dependent on model type selected and configuration used. Please contact factory for assistance in selection.

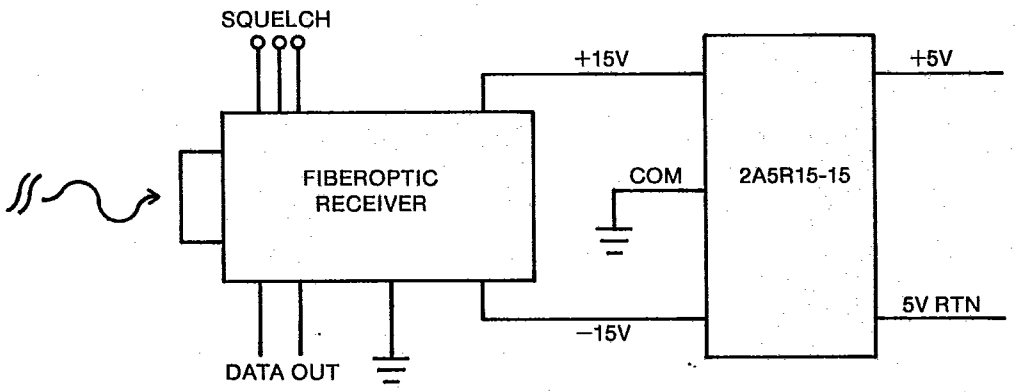
TEST CIRCUIT SCHEMATIC

- When measuring output noise use most direct possible connections to ensure correct readings.
- All noise measurements between 20HZ to 20MHZ BW.
- R(LOAD) Selected for maximum rated output current.



Caution: (1) Do not insert or remove device with power applied. (2) Care must be taken to observe input polarity.

TYPICAL APPLICATION



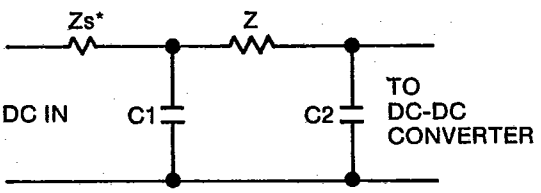
FILTERING OPTIONS

If the reflected ripple from a 2VP5R12-12 series device requires reduction, this filter option may be connected externally. A recommended filter configuration with various component values is represented here:

C1*, C2*

Z	15µf, 20V	39µF, 10V
3µH	−60db	−70db
1Ω	−40db	−50db

*Low ESR Tantalum Capacitor



*Zs is Source Impedance