

DC/DC CONVERTERS

WIDE INPUT RANGE

FEATURES

- 18-36VDC AND 36-72VDC INPUT VOLTAGE RANGE
- DUAL-IN-LINE PACKAGE
- EXTENDED TEMPERATURE RANGE: -40 TO +85° C
- HIGH EFFICIENCY - TO 80%
- INPUT PI FILTER

DESCRIPTION

The WP03R Series is designed specifically for battery powered, telecommunications, and portable applications where wide input voltage, high efficiency, high output power density, and regulated output voltage are critical features.

Advanced circuit design using surface mount devices (SMD) and manufacturing technologies result in minimized parts count, a low profile, and very high reliability.

A 300kHz C/DMOS, current mode controller is used in the input stage to optimize performance over a 2:1 input voltage range. All WP03R models

APPLICATIONS

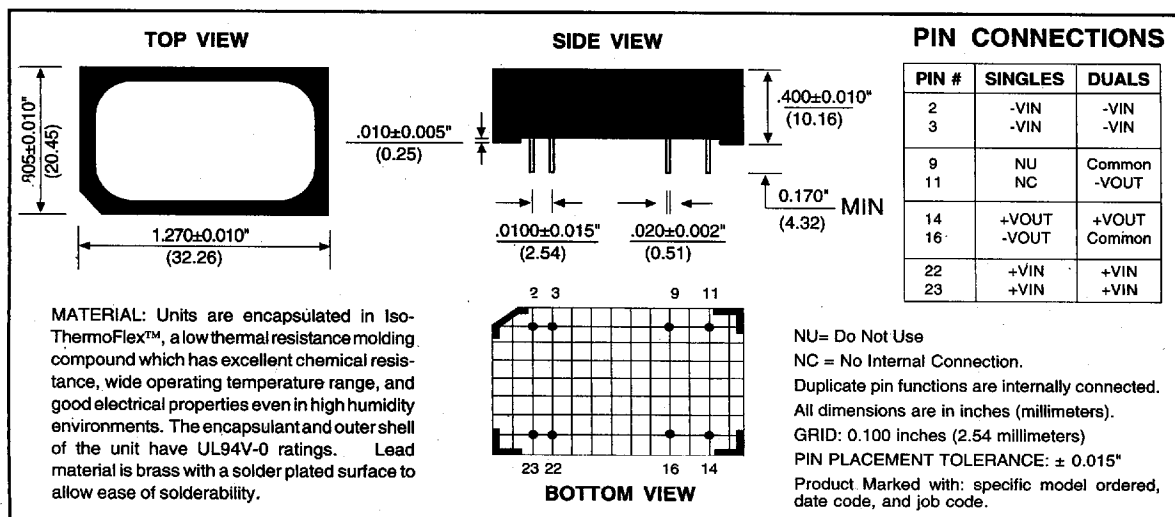
- TELECOMMUNICATION SYSTEMS
- PORTABLE INSTRUMENTS
- CELLULAR TELECOM CIRCUITS
- BATTERY POWERED SYSTEMS

will operate safely even at no load (although there is a minimum load for regulation measurement purposes).

The high efficiency of the WP03R Series means less internal power dissipation and lower thermal stress. This permits the WP03R Series to operate at higher temperatures with no degradation of reliable operation.

As with all Burr-Brown Power Convertibles, the emphasis is on reliability and quality. Conservative design rules and rigorous qualification make it possible for the WP03R Series to offer the user low cost without sacrificing reliability or performance.

MECHANICAL PACKAGE/PINOUT "L"



ELECTRICAL SPECIFICATIONS

Specifications typical at $T_A = +25^\circ\text{C}$, nominal input voltage, and rated output current unless otherwise specified.

MODEL	Nominal Input Voltage (VDC)	Rated Output Voltage (VDC)	Rated Output Current (mA)	INPUT CURRENT		REFLECTED RIPPLE CURRENT (mA-p-p)	Efficiency (%)	RATED OUTPUT POWER (W)
				NO LOAD (mA)	rated LOAD (mA)			
WP03R24S05	24	5	600	5	162	100	77	3
WP03R48S05	48	5	600	5	81	100	77	3
WP03R24D12	24	± 12	± 125	5	160	100	78	3
WP03R24D15	24	± 15	± 100	5	160	100	78	3
WP03R48D05	48	± 5	± 300	5	80	100	78	3
WP03R48D12	48	± 12	± 125	5	79	100	79	3
WP03R48D15	48	± 15	± 100	5	78	100	80	3

Note: Other input to output voltage options may be available. Please consult factory.

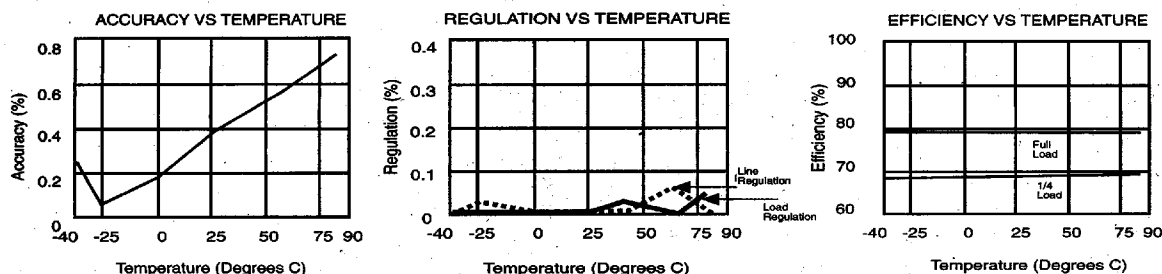
COMMON SPECIFICATIONS

Specifications typical at $T_A = +25^\circ\text{C}$, nominal input voltage, and rated output current unless otherwise specified.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT Input Voltage Range		18 36	24 48	36 72	VDC VDC
ISOLATION Rated Voltage Test Voltage Resistance Capacitance	60 Hz, 10 Seconds	500 500	10 300		VDC Vpk GΩ pF
OUTPUT Voltage Setpoint Accuracy Temperature Coefficient Line Regulation Load Regulation Ripple & Noise Over Voltage Clamp Output Current Limit Voltage Balance	Rated Load, Nominal V_{IN} Low Line to High Line Rated Load to 1/4 Rated Load Single Outputs Dual Outputs BW = 10Hz to 20MHz Percent of Rated V_{OUT} Percent of Rated Load Dual Outputs, Balanced Loads		± 0.01 125% 170%	± 1 ± 0.5 ± 0.5 ± 1.5 150 ± 2	% %/°C % % % mVp-p % % %
GENERAL Switching Frequency MTTF per MIL-HDBK-217, Rev. E Ground Benign Package Weight	Series Nominal WP03R24S05 Circuit Stress Method $T_A = +25^\circ\text{C}$		300 400 1000 12		kHz kHz kHr g
TEMPERATURE Specification Operation Storage		-25 -40 -55	+25	+85 +100 +110	°C °C °C

TYPICAL PERFORMANCE CURVES

Rated Input Voltage, Rated Output Current unless otherwise noted.



ORDERING INFORMATION

ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration.....10 seconds
Internal Power Dissipation.....1.7W
Lead Soldering Temperature (10seconds, max).....+300°C

Device Family WP03R xx yy zz L /H

WP Indicates Wide Input Power 3 Watt Regulated Unit

Model Number _____

Selected from Table of Electrical Characteristics

Where:

xx = Input Voltage

y = Number of Outputs (Single "S", Dual "D", Triple "T")

zz = Output Voltage

Package Type _____

Screening Option _____