

HPR7XX

5 WATT UNREGULATED SIP DC/DC CONVERTER

FEATURES

- EFFICIENCY >80%
- SIP PACKAGE
- HIGH POWER DENSITY: > 16 WATTS/INCH³
- LOW COST

DESCRIPTION

The HPR7XX Series provides high power densities where space is critical. The small SIP package measures only 2.2" x .3" x .4" (56 x 9 x 10 mm). Designed for high density boards, the package is non-conductive, which presents advantages over painted metal enclosures.

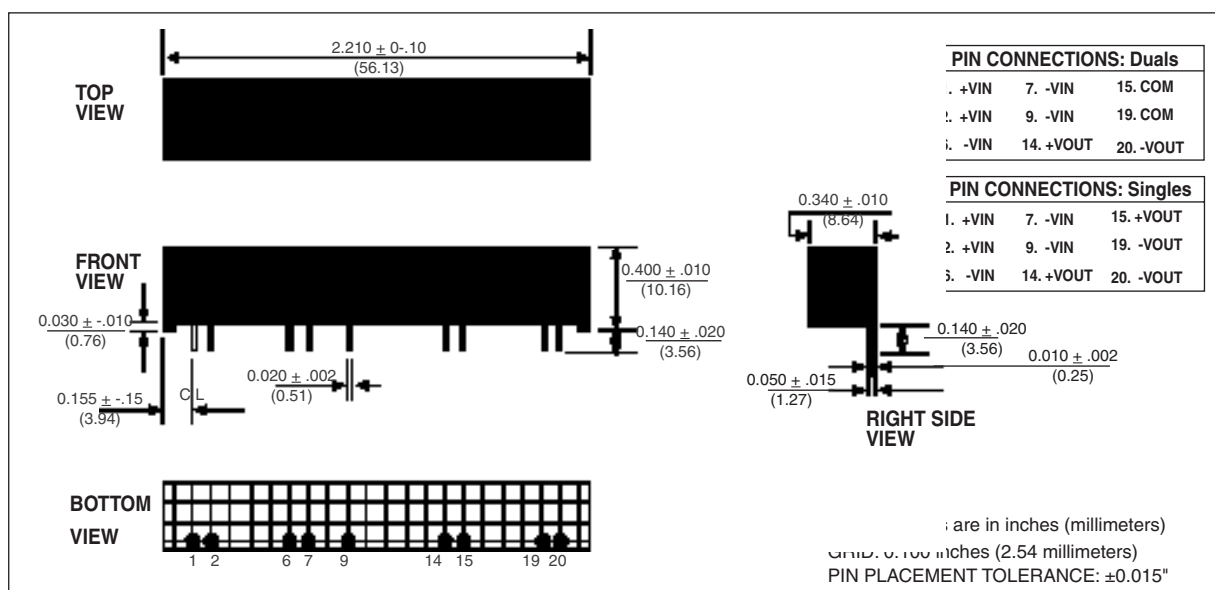
The series includes many different voltage models (other input and output voltages are available upon request), all set in a low thermal resistance molding compound, called Iso-ThermoFlex™, which provides excellent heat dissipation of internal components. The use of surface mount devices and manufacturing processes, combined with the encapsulation process, assure the user that the product is more environmentally rugged than any other DC/DC converter of its type.

- SINGLE AND DUAL OUTPUTS
- INTERNAL INPUT AND OUTPUT FILTERING
- SIX-SIDED SHIELDING

Operation down to no load will not impact the reliability of the series, although this product has a 10mA minimum load for specification purposes. It is recommended that all pins be used for current carrying capacity even though duplicate pin-outs are internally connected.

The HPR7XX has 500VDC isolation barrier between input and output, offering the designer maximum flexibility in grounding options and polarity configurations. The outstanding MTTF, superior reliability, and low cost make it an excellent choice for any high power- density applications.

MECHANICAL



ELECTRICAL CHARACTERISTICS

MODEL	NOMINAL INPUT VOLTAGE (VDC)	RATED OUTPUT VOLTAGE (VDC)	RATED OUTPUT CURRENT (mA)	INPUT CURRENT		REFLECTED RIPPLE CURRENT (mAp-p)	EFFICIENCY (%)
				NO LOAD (mA)	RATED LOAD (mA)		
HPR700	5	5	1000	70	1250	15	80
HPR703	5	± 5	±500	70	1250	15	80
HPR704	5	±12	±208	70	1190	15	84
HPR705	5	±15	±167	70	1190	15	84
HPR706	12	5	1000	25	490	15	80
HPR710	12	±12	±208	25	490	15	85
HPR711	12	±15	±167	25	490	15	85
HPR712	15	5	1000	20	407	15	82
HPR717	15	±15	±167	20	392	15	85

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

COMMON SPECIFICATIONS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT					
Voltage Range		4.75 11.4 14.2	5 12 15	5.25 12.6 15.8	V _{DC} V _{DC} V _{DC}
Voltage Rise Time	See Application Note: "Capacitive Loading Effects on Start-Up of DC/DC Converters"				
ISOLATION					
Rated Voltage		500			V _{DC}
Test Voltage	60 Hz, 10 seconds	500			V _{pk}
Resistance			1		GW
Capacitance			55		pF
Leakage Current	V _{ISO} = 240VAC, 60Hz		5		µArms
OUTPUT					
Rated Power			5		W
Voltage Setpoint Accuracy	Rated Load, Nominal V _{IN}		±3		%
Temperature Coefficient			±0.05		%/Deg C
Ripple & Noise	BW = DC to 10MHz BW = 10Hz to 2MHz		50 5		mVp-p mVrms
Voltage	I _L = 10mA, V _{OUT} = 5V I _L = 10mA, V _{OUT} = ±12V I _L = 10mA, V _{OUT} = ±15V			5.75 13.10 16.25	V _{DC} V _{DC} V _{DC}
REGULATION					
Line Regulation	High Line to Low Line		1.2		%/%V _{in}
Load Regulation (5V out only)	Rated Load to No Load		15		%
Load Regulation (All other Models)	Rated Load to No Load		10		%
GENERAL					
Switching Frequency			170		kHz
Package Weight			7		g
MTTF per MIL-HDBK-217, Rev. E Ground Benign	Circuit Stress Method T _A = +25°C		2000		kHr
TEMPERATURE					
Specification		-25	+25	+70	°C
Operation		-40		+85	°C
Storage		-40		+110	°C

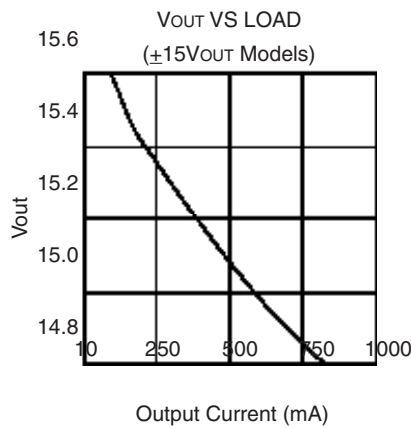
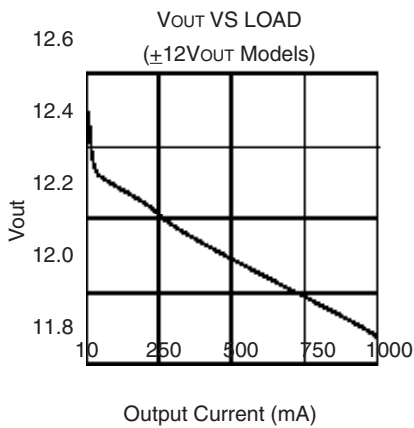
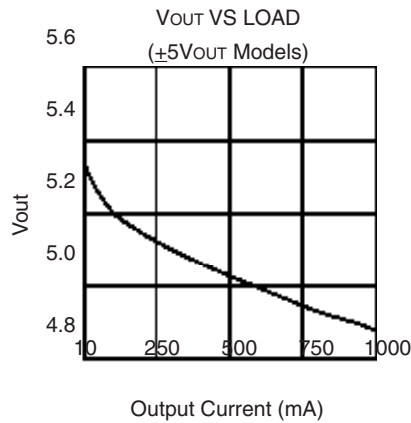
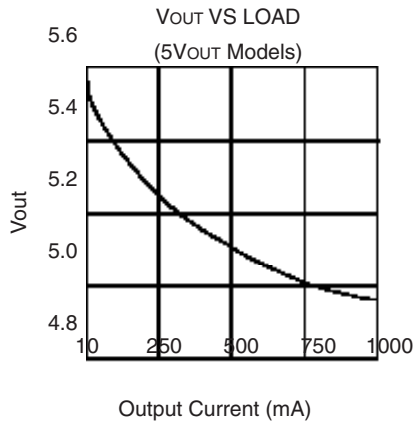
ABSOLUTE MAXIMUM RATINGS

Internal Power Dissipation.....1.7W
Short Circuit Protection.....Momentary
Lead Temperature (soldering, 10 seconds max).....+300°C

ORDERING INFORMATION

Device Family	HPR	7XX	/H
HPR indicates DC/DC converter			
Model Number			
Screening Option			

TYPICAL PERFORMANCE CURVES



The information provided herein is believed to be reliable; however, MuraTA POWER SOLUTIONS assumes no responsibility for inaccuracies or omissions. MuraTA POWER SOLUTIONS 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. MuraTA POWER SOLUTIONS does not authorize or warrant any MuraTA POWER SOLUTIONS product for use in life support devices/systems or in aircraft control applications.



Murata Power Solutions, Inc.

11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.

Tel: (508) 339-3000 (800) 233-2765 Fax: (508) 339-6356

www.murata-ps.com email: sales@murata-ps.com ISO 9001 & ISO 14001 REGISTERED

Murata Power Solutions, Inc. makes no representation that the use of its products in the circuits described herein, or the use of other technical information contained herein, will not infringe upon existing or future patent rights. The descriptions contained herein do not imply the granting of licenses to make, use, or sell equipment constructed in accordance therewith. Specifications are subject to change without notice.
© 2008 Murata Power Solutions, Inc.

USA: Mansfield (MA), Tel: (508) 339 3000, email: sales@murata-ps.com

Canada: Toronto, Tel: (866) 740 1232, email: toronto@murata-ps.com

UK: Milton Keynes, Tel: +44 (0)1908 615232, email: mk@murata-ps.com

France: Montigny Le Bretonneux, Tel: +33 (0)1 34 60 01 01, email: france@murata-ps.com

Germany: München, Tel: +49 (0)89-544334-0, email: ped.munich@murata-ps.com

Japan: Tokyo, Tel: 3-3779-1031, email: sales_tokyo@murata-ps.com

Osaka, Tel: 6-6354-2025, email: sales_osaka@murata-ps.com

China: Shanghai, Tel: +86 215 027 3678, email: shanghai@murata-ps.com

Guangzhou, Tel: +86 208 221 8066, email: guangzhou@murata-ps.com

Singapore: Parkway Centre, Tel: +65 6348 9096, email: singapore@murata-ps.com