POLYTRON DEVICES

DATA SHEET

DC-DC CONVERTER

4:1 WIDE INPUT RANGE, 6 WATT

LOW NOISE, DUAL OUTPUT

MODEL LWB6-5-12

FEATURES

- 4:1 Extra Wide Input Voltage Range
- 1600 Vdc Isolation
- Over Current Protection
- Short Circuit Protection
- Six-Sided Continuous Shield
- High Efficiency 85%
- 1.00 × 2.00 × 0.40" Package
- Safety Approved UL60950-1, EN60950-1, IEC60950-1
- RoHS Compliant to EU Directive 2011/65/EU

SELECTION GUIDE All specifications are typical at nominal input, full load and 25°C, unless otherwise noted.

Input Voltage Range Vdc	Output Voltage Vdc	Output Current @ Full Load mA	Input Current @ No Load mA	Efficiency %	Model Number	Maximum Capacitor Load µF
4.5 - 9	±12	±250	140	85	LWB6-5-12	±510

Input Specifications

Operating input voltage range, Vdc	4.5 Min., 5 Typ., 9 Max.	
Input surge voltage, Vdc	15 Max.	100 ms, Max.
Input filter[1]	Pi type	

Output Specifications

Voltage accuracy, %	-2 Min., +2 Max.	
Line regulation, %	-0.2 Min., +0.2 Max.	Low Line to High Line at Full Load
Load regulation, %	-0.5 Min., +0.5 Max.	10% Load to Full Load
Ripple and noise, mVp-p	20 Max.	Measured by 20MHz bandwidth with a 1µF/25V X7R MLCC
Temperature coefficient, %/°C	-0.02 Min., +0.02 Max.	
Transient response recovery time, µs	500 Typ.	25% load step change
Over load protection, %	150 Typ.	% of Iout rated
Short circuit protection	Continuous, automatic recovery	

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LWB6-5-12

General Specifications

Isolation voltage, Vdc	1 minute	Input to Output	1600 Min.		
	1 minute	Input (Output) to Case	1600 Min.		
Isolation resistance, MΩ	500Vdc		50 Min.		
Isolation capacitance, pF					300 Max.
Switching frequency, kHz			100 Min.		1500 Max.

Environmental Specifications

Operating ambient temperature, ºC	Without derating	-40 Min.		+84 Max.
	With derating	+84 Min.		+100 Max.
Maximum case temperature, ºC				+100 Max.
Storage temperature range, ºC		-55 Min.		+125 Max.
Thermal impedance, ºC/W	Natural convection (20LFM)		12 Typ.	
Thermal shock		MIL-STD-810F		
Vibration		MIL-STD-810F		
Relative humidity		5% to 95% RH		

Physical Specifications

Design meet safety standard	UL60950-1, EN60950-1, IEC60950-1
Case material	Nickel-coated copper
Base material	Non-conductive, black plastic
Potting material	Epoxy (UL94-V0)
Weight	31g (1.09oz)

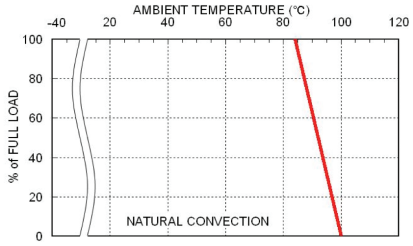
Note:

1. The module meets EMI Class A with external components. For further information, please contact Polytron Devices.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

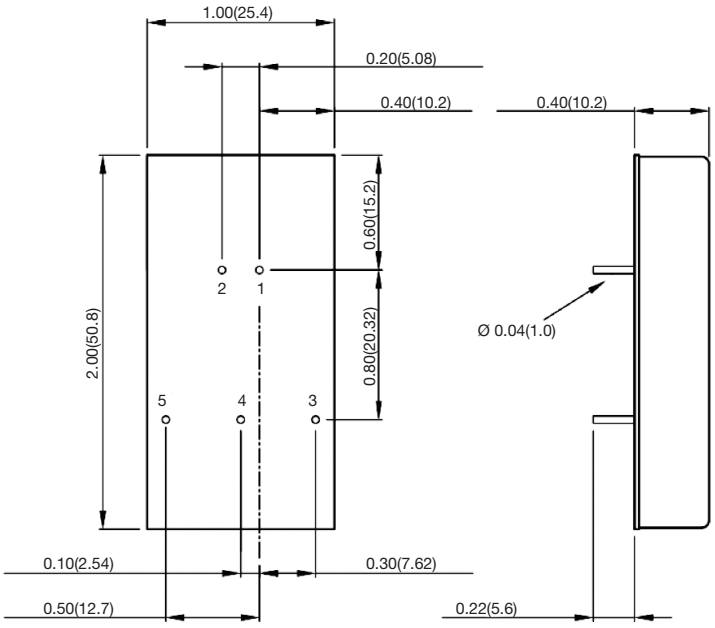
LWB6-5-12

Characteristic Curve



LWB6-5-12 Derating Curve

Mechanical Drawing



BOTTOM VIEW

PIN CONNECTION

PIN	Define
1	+Vin
2	-Vin
3	+Vout
4	Common
5	-Vout

1. **All dimensions in inch (mm)**
2. **Tolerance :x.xx±0.02 (x.x±0.5) x.xxx±0.01 (x.xx±0.25)**
3. **Pin pitch tolerance ±0.01 (0.25)**
4. **Pin dimension tolerance ±0.004(0.1)**

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