



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



PTH05050 5 Vin Single Output

Total Power: 21.6W
Input Voltage: 4.5 - 5.5VDC
of Outputs: Single



Special Features

- 6 A output current
- 5 V input voltage
- Wide-output voltage adjust (0.8 Vdc to 3.6 Vdc)
- Auto-track™ sequencing*
- Pre-bias start-up capability
- Efficiencies up to 95%
- Output ON/OFF inhibit
- Output voltage sense
- Point-of-Load-Alliance (POLA) compatible
- Available RoHS compliant
- 2 Year Warranty

Safety

UL/cUL CAN/CSA-C22.2
No. 60950-1-03/UL 60950-1,
File No. E186249

TÜV Product Service (EN60950)
Certificate No.
B 06 07 38572 068

Electrical Specifications

Output

Voltage adjustability	(See note 4)	0.8 - 3.6 Vdc
Setpoint accuracy		± 2.0% Vo
Line regulation		±10% mV typ.
Load regulation		±12 mV typ.
total regulation		± 3% Vo
Minimum load		0 A
Ripple and noise	20 MHz bandwidth	20 mV pk-pk
Temperature co-efficient	-40°C to +85 °C	± 5% Vo
Transient response (see note 5)		70 μs recovery time Overshoot/undershoot 100 MV

Input

Input voltage range	See note 3	4.5 - 5.5 Vdc
Input current	No load	10 mA typ.
Remote ON/OFF	See note 1	Positive logic
Startup time		1 V/ms
Undervoltage lockout		3.7 - 4.3 Vdc typ.
Track input voltage	Pin 2 (See note 6, 7)	± 0.3% Vin

EMC Charateristics

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-6
Radiated immunity	EN61000-4-3

General Specifications

Efficiency	See Efficiency Table	95% max.
Insulation voltage		Non-isolated
Switching frequency	550 kHz to 650 KHz	
Approvals and standards	EN60950 UL/cUL60950	
Material flammability	UL94V-0	
Dimensions	(L x W x H)	22.10 x 12.57 x 8.50 mm 0.870 x 0.495 x 0.335 in.
Weight		2.9 g (0.10 oz)
MTBF demonstrated	Telcordia SR-332F	7,092,000 hours

Environmental Specifications

Thermal performance (see note 2)	Operating ambient, temperature	-40 °C to +85 °C
	Non-operating	-40 °C to +125 °C
MSL ('Z' suffix only)	JEDEC J-STD-020C	Level 3

Protection

Short-circuit	Auto reset	12 A typ.
---------------	------------	-----------

*Auto-track™ is a trade mark of Texas Instruments

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated
Cin = 100 µF, Cout = 0 µF

Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typ.)	Regulation ²		Model Number
						Line	Load	
21.6 W	4.5 - 5.5 Vdc	0.8 - 3.6 V	0 A	6 A	95%	± 10 mV	± 12 mV	PTH05050

Part Number System with Options

Product Family	Input Voltage	Output Current	Mechanical Package	Output Voltage Code	Pin Option ⁽⁸⁾	Mounting Option ⁽⁹⁾	Packaging Options
PTH	05	05	0	W	A	S	T
POLA compatible	05 = 5 V	05 = 6 A	Always 0	W = Wide	A = Through-Hole Std. Pin Length (0.140") A = Surface-mount Tin/Lead Solder Ball	D = Horizontal Through-hole (RoHS 6/6) H = Horizontal Through-hole (roHS 5/6) S = Surface-mount (RoHS 5/6) Z = Surface-mount (RoHS 6/6)	No suffix = Trays T = Tape and Reel

Notes

- Remote ON/OFF. Positive Logic
ON: Pin 3 open; or $V > V_{in} - 0.5 V$
OFF: Pin 3 GND; or $V < 0.8 V$ (min - 0.2 V).
- See Figure 1 for safe operating curve.
- A 100 μF electrolytic input capacitor is required for proper operation. The capacitor must be rated for a minimum of 300 mA rms of ripple current.
- An external output capacitor is not required for basic operation. Adding 100 μF of distributed capacitance at the load will improve the transient response.
- 1 A/ μs load step, 50 to 100% $I_{o,max}$, $C_{out} = 100 \mu F$.
- If utilized V_{out} will track applied voltage by $\pm 0.3 V$ (up to V_o set point).
- The pre-bias start-up feature is not compatible with Auto-Track™. This is because when the module is under Auto-Track™ control, it is fully active and will sink current if the output voltage is below that of a back-feeding source. Therefore to ensure a pre-bias hold-off, one of the following two techniques must be followed when input power is first applied to the module. The Auto-Track™ function must either be disabled, or the module's output held off using the inhibit pin. Refer to Application Note 158 for more details.
- Tape and reel packaging only available on the surface-mount versions.
- To order Pb-free (RoHS compatible) surface-mount parts replace the mounting option 'S' with 'Z', e.g. PTH05050WAZ. To order Pb-free (RoHS compatible) through-hole parts replace the mounting option 'H' with 'D', e.g. PTH05050WAD.
- NOTICE: Some models do not support all options. Please contact your local sales representative or use the on-line model number search tool at <http://www.powerconversions.com> to find a suitable alternative.

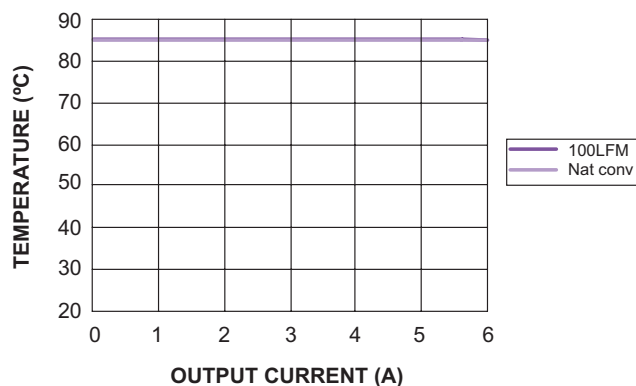


Figure 1 - Safe Operating Area
 $V_{in} = 5 V$, Output Voltage = 3.3 V (See Note A)

Output Voltage Adjustment of the PTH05050 Series

The ultra-wide output voltage trim range offers major advantages to users who select the PTH05050. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.8 Vdc to 3.6 Vdc. When the PTH05050 converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

Efficiency Table ($I_o = 4 A$)

Output Voltage	Efficiency
$V_o = 1.0 V$	85%
$V_o = 1.2 V$	87%
$V_o = 1.5 V$	89%
$V_o = 1.8 V$	90%
$V_o = 2.0 V$	91%
$V_o = 2.5 V$	93%
$V_o = 3.3 V$	95%

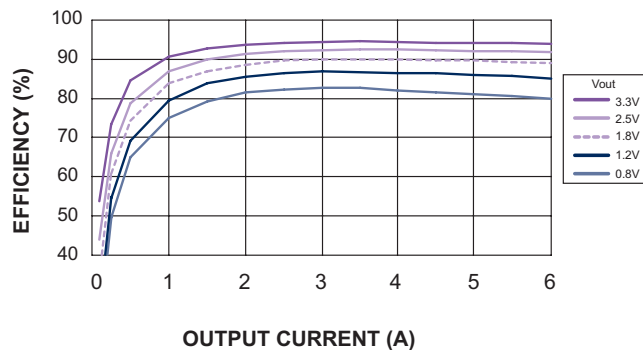
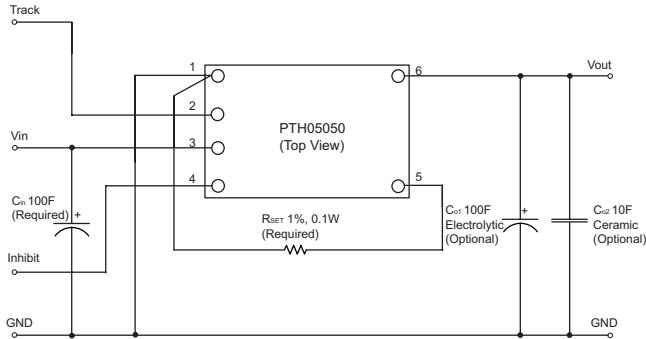


Figure 2 - Efficiency vs Load Current
 $V_{in} = 5 V$ (See Note B)

Specifications



Notes

- A SOA curves represent the conditions at which internal components are within the Artesyn derating guidelines.
- B Characteristic data has been developed from actual products tested at 25 °C. This data is considered typical data for the converter.

Figure 3 - Standard Application

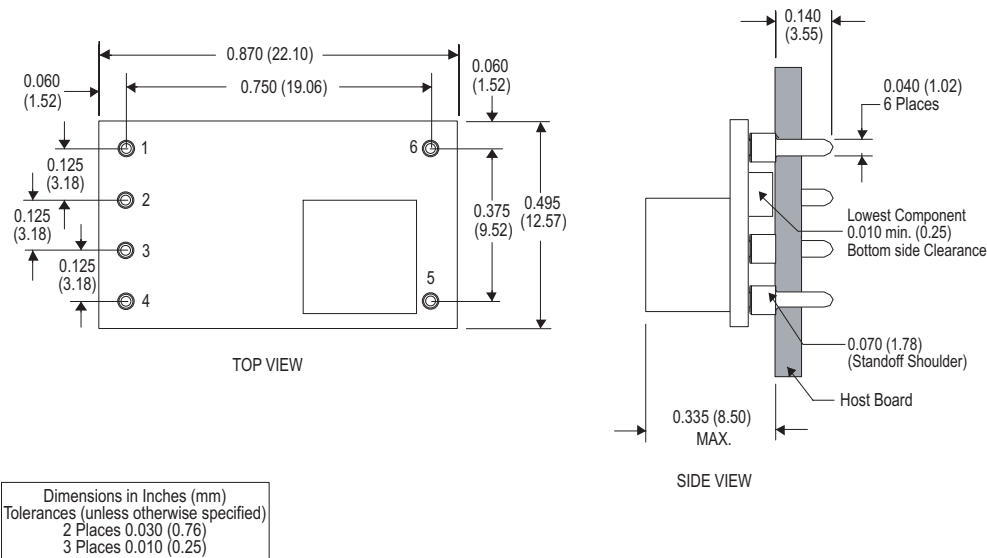
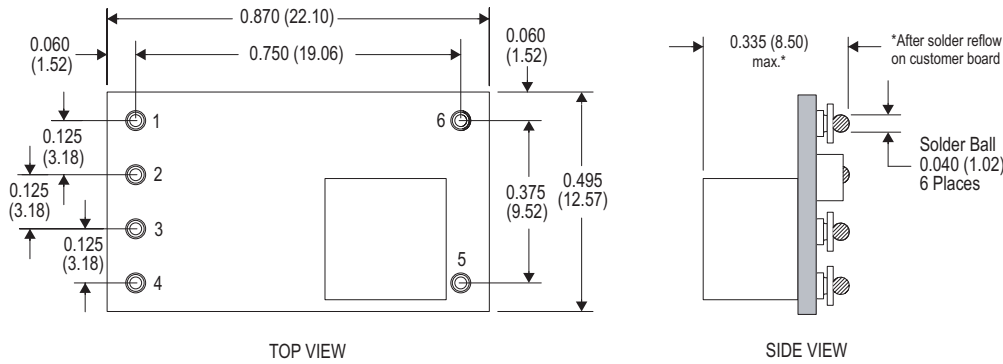


Figure 4 - Plated Through-Hole Mechanical Drawing

Specifications



Dimensions in Inches (mm)
Tolerances (unless otherwise specified)
2 Places 0.030 (0.76)
3 Places 0.010 (0.25)

Figure 5 - Surface-Mount Mechanical Drawing

Pin Connections	
Pin No.	Function
1	Ground
2	Track
3	Vin
4	Inhibit*
5	Vo adjust
6	Vout

*Denotes negative logic:
Open = Normal operation
Ground = Function active

Americas

5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 (760) 930 4600
Facsimile: +1 (760) 930 0698

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.powerconversion.com
technicalsupport@
powerconversion.com

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Emerson Network Power.
The global leader in enabling
business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- **Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.
©2008 Emerson Electric Co.