

NON-ISOLATED DC/DC CONVERTERS

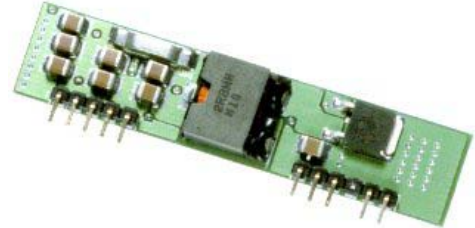
12V Input / 50% Tracking Output / 10A



V7PC-10AT5 Series

PRELIMINARY

- Industry standard pinout
- Designed specifically for Bus Termination voltages
- Capable of sinking and sourcing current
- Remote on/off
- Remote sense



Description

The V7PC-10AT5 is non-isolated step down DC/DC converters that operate from a nominal 12V source. These converters are designed specifically to provide bus termination voltages in applications such as DDR (double data rate) memory where the bus termination voltage must closely track the I/O bus voltage. The converter accepts a reference input and uses this to program its output voltage to 50% of the reference. The unit is packaged in an industry-standard single-in-line footprint and provides a maximum 10A output. Standard features include remote on/off, over current protection and remote sense.

Part Selection

Output Voltage	Input Voltage	Max. Output Current	Max. Output Power	Typical Efficiency	Model Number
Vref / 2	12V	10A	20W	82%	V7PC-10AT5S

Input Specifications

Parameter	Min	Typ	Max	Notes
Input Voltage Range	10.8VDC		13.2 VDC	
Input Reference Voltage			3.5 VDC	
Input Current (no load)		50mA		
Input Current (full load)			3.8A	
Reflected Ripple Current			50mA rms 180mA p-p	With a simulated source impedance of 500nH, 5Hz to 20 MHz

Output Specifications

Parameter	Min	Typ	Max	Notes
Output Current	0A		10A	
Regulation				Total error band of $\pm 3\%$ over all operating conditions and temperatures until end of life.
Setpoint Accuracy	-1.0%		+1.0%	
Line Regulation	-0.3%		+0.3%	
Load Regulation	-0.3%		+0.4%	
Temperature	-0.02%/°C		+0.02%/°C	
Ripple and Noise			100mV pk-pk 25mV rms	0 to 20MHz Bandwidth Use 0.1uF ceramic and 470uF aluminum on output

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Output Specifications (continued)

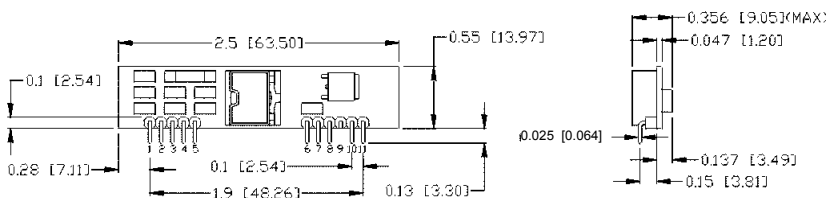
Parameter	Min	Typ	Max	Notes
Transient Response Max deviation Recovery to within $\pm 1\%$			150mV 70uS	di/dt = 1A/uS, Vin =12VDC Ta = 25°C, 50-100% load change.
Remote Sense Compensation		0.5VDC		

General Specifications

Parameter	Specification
Switching Frequency	200kHz typical (fixed)
Dimensions	inches 2.50 x 0.55 x 0.36 mm 63.5 x 14.0 x 9.0
Pin Length	inches 0.13 \pm 0.02 mm 3.3 \pm 0.5
Weight	9.5 g
Operating Temperature	0°C to 70°C (see curve)
Non-Operating Temperature	-40°C to 100°C
MTBF (MIL-HDBK-217K)	>1,000,000 hours
Protection Features	Short circuit Over current Undervoltage
Remote On/Off	Continuous 130% to 250% max Io UVLO Vin < 9.8V Active High

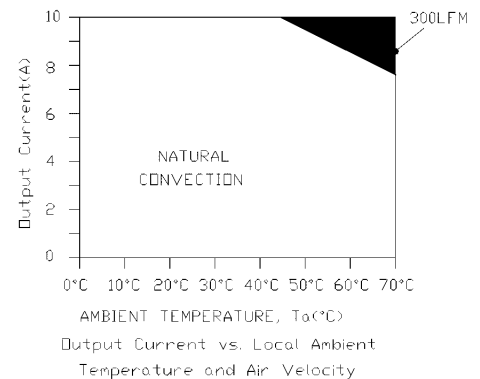
Pin Connections

Pin	Function
1	+Vo
2	+Vo
3	Remote Sense (+)
4	+Vo
5	Ground
6	Ground
7	+Vin
8	+Vin
9	No pin
10	Vref In
11	Remote ON/OFF



V7PCL-10AXXS
MECHANICAL OUTLINE

DERATING CURVE



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