

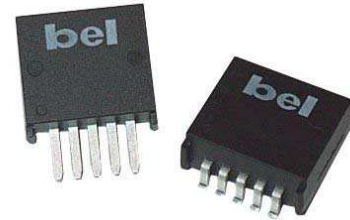
NON-ISOLATED DC/DC CONVERTERS

2.5V Input / 1.0 – 1.5V Output / 10A



S7AH-10J / V7AH-10J Series PRELIMINARY

- Compact surface mount package
- Excellent thermal performance
- High efficiency means less power dissipation
- Remote on/off
- Low cost



Description

The S/V7AH-10J Series are non-isolated step down DC/DC converters that operate from a nominal 2.5V source. These converters are available in a range of output voltages from 1.0V to 2.5V. They are offered in a compact overmolded package rated at 10A. Optional lead-forming provides a vertical mount product for minimal footprint or a surface mount option for very low profile. Standard features include remote on/off, over current protection and output voltage adjust. These products may be used almost anywhere low-voltage silicon is being employed and a 2.5V source is available. Typical applications include file servers, routers, line cards, and other computing and communications equipment.

Part Selection

Output Voltage	Input Voltage	Max. Output Current	Max. Output Power	Typical Efficiency	Part Number Surface Mount	Part Number Vertical Mount
1.5V	2.5V	10A	15W	85%	S7AH-10J150	V7AH-10J150
1.2V	2.5V	10A	12W	83%	S7AH-10J120	V7AH-10J120
1.0V	2.5V	10A	10W	81%	S7AH-10J100	V7AH-10J100

Input Specifications

Parameter	Min	Typ	Max	Notes
Input Voltage Range	2.25 VDC		2.75 VDC	
Input Current (no load)		30mA		
Input Current (full load)			8.0A	(worst case)
Reflected Ripple Current (pk-pk)			200mA pk-pk 60mA rms	With a simulated source impedance of 500nH, 5Hz to 20 MHz

Output Specifications

Parameter	Min	Typ	Max	Notes
Voltage Adjustability	90%		110%	
Output Current	0A		10A	
Setpoint Accuracy	-2.0%		+2.0%	
Total Regulation			60mV 48mV 40mV	Includes line, load and temperature.
Ripple and Noise			100mV pk-pk 25mV rms	0 to 20MHz Bandwidth Use 0.1uF ceramic on output

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Output Specifications (continued)

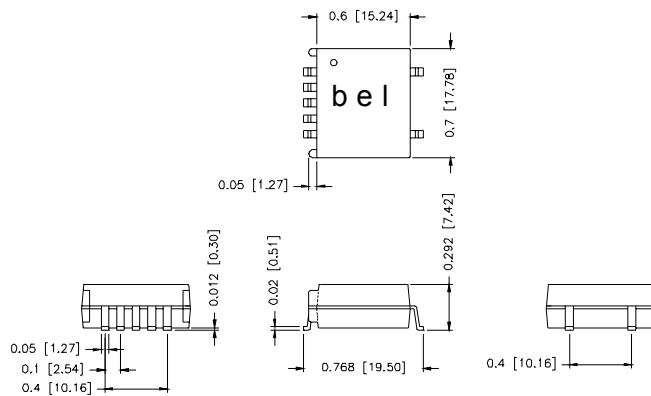
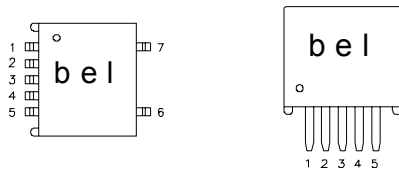
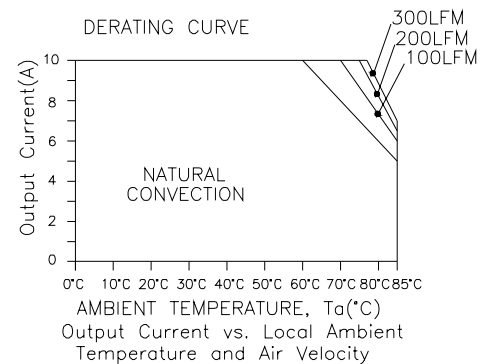
Parameter	Min	Typ	Max	Notes
Transient Response Max deviation Recovery to within $\pm 1\%$			160mV 60 μ S	di/dt = 0.5A/ μ S, Vin = 3.3VDC Ta = 25°C, 50-100% load change with 220 μ F tantalum external capacitance.

General Specifications

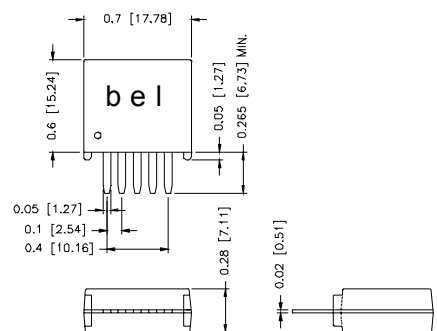
Parameter	Specification
Switching Frequency	300kHz typical (fixed)
Dimensions	inches 0.7 x 0.65 x 0.32 mm 17.78 x 16.51 x 8.13
Weight	5 g
Operating Temperature	-40°C to 85°C (see derating curve)
Non-Operating Temperature	-40°C to 125°C
Protection Features	Short circuit Over current Continuous 130% to 250% max Io
Remote On/Off	Active High

Pin Connections

Pin	Function
1	On/Off
2	Vin
3	Ground
4	Vout
5	Trim
6	(S7AH only) NC
7	(S7AH only) NC



S7AH-10Jxxx



V7AH-10Jxxx

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