

SMT30E Series

E-Class Non-Isolated

Data Sheet

Total Power: 99 Watts
Input Voltage: 8 - 14 Vdc
of Outputs: Single

SPECIAL FEATURES

- 30 A current rating
- Input voltage range: 8 - 14Vdc
- Output voltage range: 0.8 - 3.63 V
- Ultra high efficiency: 91% @ 12 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of >3.2 million hours per Telcordia SR-332
- Ideal solution where board space is at a premium or tighter card pitch is required
- Industry standard surface-mount footprint
- RoHS compliant
- Two year warranty

SAFETY

- UL, cUL CAN/CSA 22.2 No. EI74104
- UL 60950-1 File No. EI74104
- TÜV Product Service (EN60950) Certificate No. B05 06 38572 055
- CB report and certificate to IEC60950



Electrical Specifications

Input		
Input voltage range		8 - 14 Vdc
Input current	No load (max.)	250 mA
Input current (max.)		9.2 A max. @ Io max. and Vout = 3.3 V
Input reflected ripple		220 mA rms
Remote ON/OFF		See Note 1
Start-up time		20 ms
Output		
Voltage adjustability		0.8 to 3.63 Vdc
Setpoint accuracy		±1.3% typical
Line regulation		±0.2% typical
Load regulation		±1.5% typical
Total error band		±3.0% typical
Overshoot/undershoot		None
Ripple and noise	5 Hz - 20 MHz	60 mV pk-pk 25 mV rms
Temperature coefficient		±0.01%/ °C
Transient response	Vout = 1.5 V	50% - 75% load step
Slew rate = 0.5 A μs		3% max. deviation; 10 μs recovery to within ±1%

All specifications are typical 12 Vin and 1.5 Vout, full load at 25 °C unless otherwise stated. Cout = 100 μF

General Specifications

Efficiency	@12 Vin, 3.3 Vout	91%
Insulation voltage		Non-isolated
Switching frequency	Fixed	1.3 MHz
Approvals and standards		EN60950, UL/cUL60950
Material flammability		UL94V-0
Dimensions	L x W x H	33.02 x 13.46 x 8.10 mm 1.3 x 0.53 x 0.319 inches
Weight		6.3 g (0.22 oz)
MTBF	Telcordia SR-332	3,289,053 hours

EMC Characteristics

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

Environmental Specifications

Thermal performance	Operating ambient temperature	-40 °C to +85 °C
	Non-operating temperature	-40 °C to +125 °C
MSL		Level 3
Protection		
Short-circuit	Continuous	
Thermal	Automatic recovery	

Ordering Information

Model Number	Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation	
							Line	Load
SMT30E-12W3V3-J	99W	8 - 14 Vdc	0.8 - 3.63 V	0 A	30 A	91%	±0.2%	±1.5%

Part Number System with Options

Product Family	Rated Output Current	Performance	Input Voltage	Type of Outputs	Output Voltage	Packaging Options
SMT	30	E	12	W	3V3	J
SMT = Surface mount	30 = 30 Amp	E = Enhanced performance	12 = 8 - 14 Vdc	W = Wide	0.8 - 3.63 Vdc	No "T" suffix = Pb-free RoHS 6/6 compliant in trays -TJ = Pb-free RoHS 6/6 compliant in tape and reel

Output Voltage Adjustment

The ultra-wide output voltage trim range offers major advantages to users who select the SMT30E-12W3V3J. 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 3.63 Vdc. When the SMT30E-12W3V3J converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

Notes:

- The SMT30E features a 'Positive Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground. The following conditions apply for the SMT30E:

Configuration

Remote pin open circuit
Remote pin pulled low [Von/off < 0.8 V]
Remote pin pulled high [Von/off > 2.8 V]

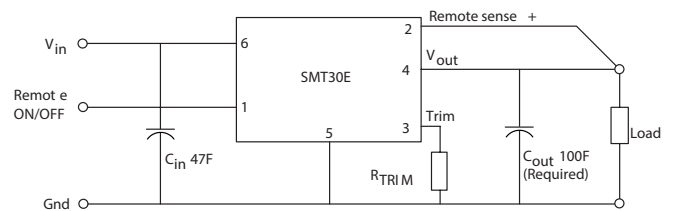
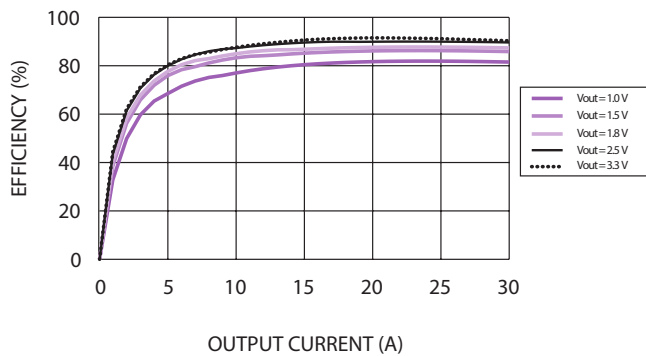
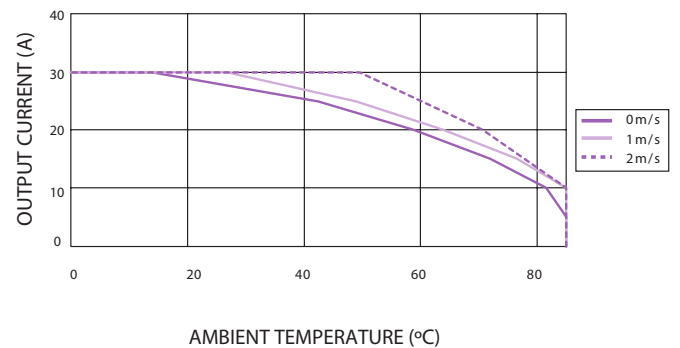
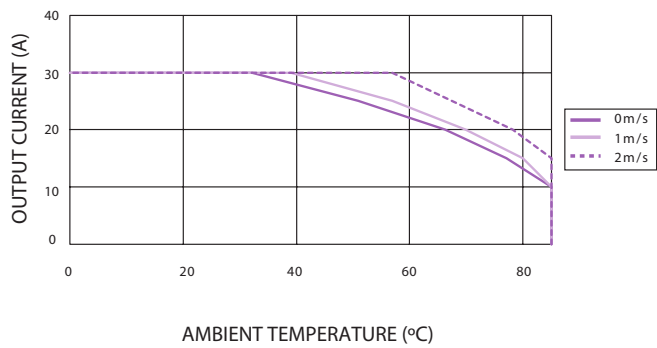
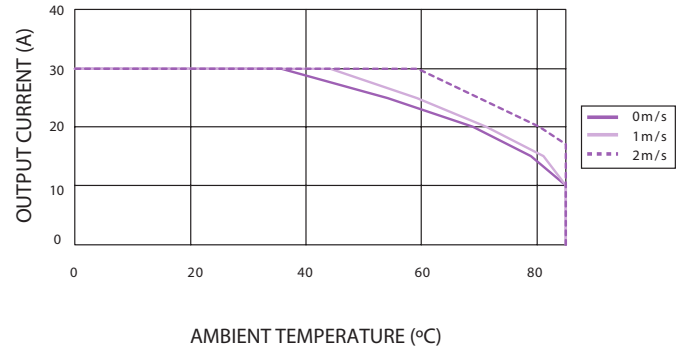
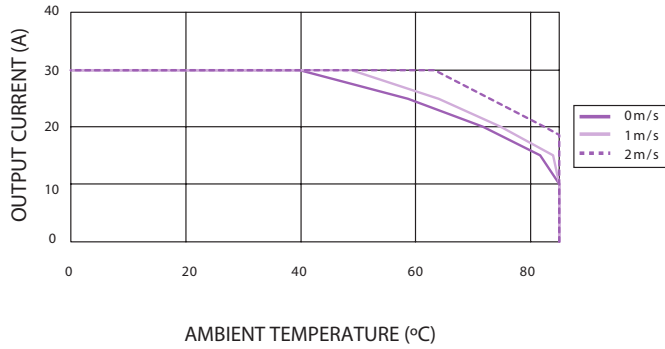
Converter Operation

Unit is ON
Unit is OFF
Unit is ON

A 'Negative Logic' Remote ON/OFF version is also possible with this converter. Please consult the factory for details.

- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com> to find a suitable alternative.

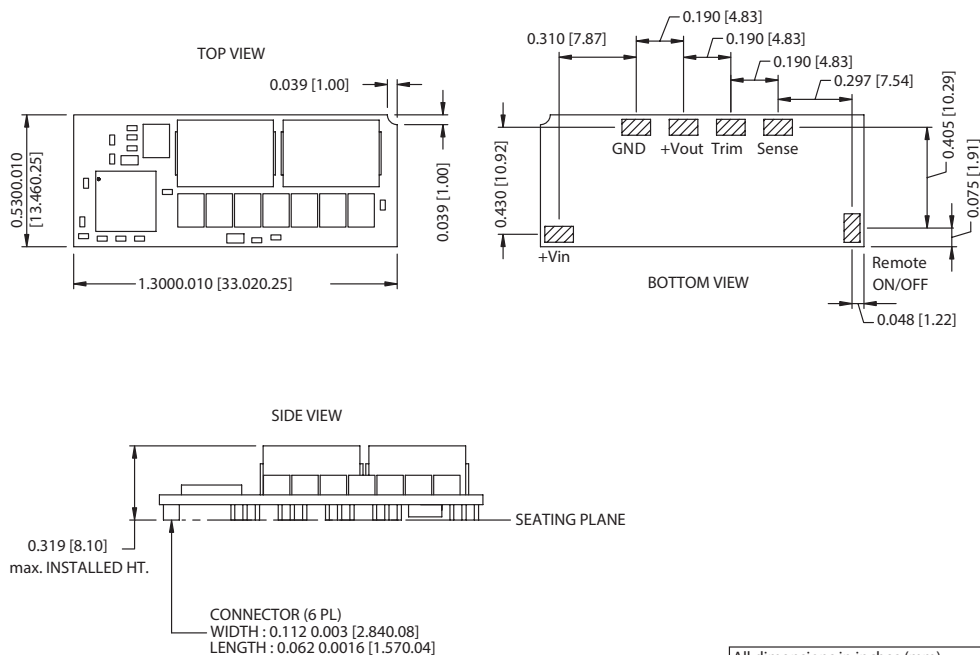
- The derating curve represents the condition at which internal components are within the Artesyn derating guidelines.
- Characteristic data has been developed from actual products tested at 25 °C. This data is considered typical data for the converter.



Mechanical Drawings

Pin Assignments

Pin	Function
1	Remote ON/OFF
2	Remote Sense
3	Trim
4	+Vout
5	Ground
6	+Vin



All dimensions in inches (mm)
All tolerance 0.010in (0.25mm)
unless otherwise stated

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SMT30E Series 31Dec2019