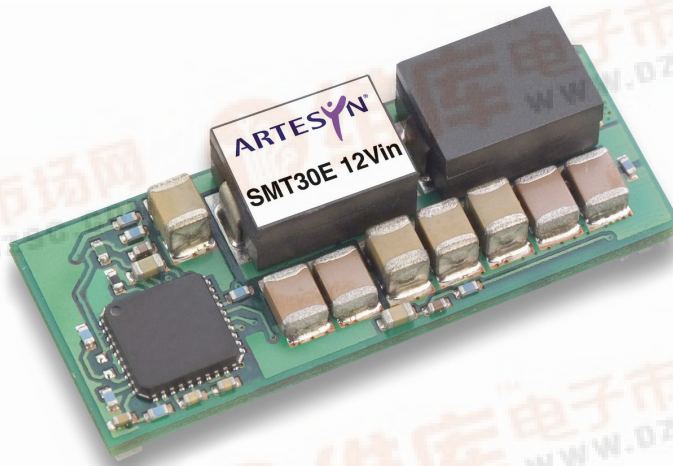


## SMT30E Series 12 Vin single output

**Total Power:** 99W  
**Input Voltage:** 8-14 Vdc  
**# of Outputs:** Single



Rev.11.07.08\_94  
SMT30E  
1 of 5

### Special Features

- 30 A current rating
- Input voltage range: 8 Vdc to 14 Vdc
- Output voltage range: 0.8 Vdc to 3.63 Vdc
- Ultra high efficiency: 91% @ 12 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of 3,289,053 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
- Available RoHS compliant
- 2 year warranty

### Safety

- UL/cUL CAN/CSA 22.2 No. E174104
- UL 60950 File No. E174104
- TÜV Product Service (EN60950) Certificate No. B05 06 38572 055
- CB report and certificate to IEC60950

## Electrical Specifications

Output	
Voltage adjustability:	0.8 - 3.63 Vdc
Setpoint accuracy:	±1.3% typ.
Line regulation:	±0.2% typ.
Load regulation:	±1.5% typ.
Total error band:	±3.0% typ.
Overshoot / undershoot:	None
Ripple and noise:	5 Hz to 20 MHz 60 mV pk-pk 25 mV rms
Transient coefficient:	±0.01% / °C typ.
Transient response: Slew rate = 0.5 A $\mu$ s	1.5 Vout 50% to 75% load step 3% max. deviation 10 $\mu$ s recovery to within ±1.0

Input		
Input voltage range:	8 - 14 Vdc	
Input current:	No load (max.)	250 mA
Input current (max.):	9.2 A max. @ I <sub>o</sub> max. and V <sub>out</sub> = 3.3 V	
Input reflected ripple:	220 mA rms	
Remote ON/OFF:	(See note 1)	
Start-up time:	20 ms	

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

General Specifications		
Efficiency:	@ 12 Vin, 3.3 Vout	91% typ.
Insulation voltage:	Non-isolated	
Switching frequency:	Fixed	1.3 MHz typ.
Approvals and standards:	EN60950-1 UL/cUL60950-1	
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.)	
Coplanarity:	100 μm	
MTBF:	Telcordia SR-332	3,289,053 hours

## Environmental Specifications

Thermal performance:	Operating ambient, temperature	-40 °C to +85 °C
	Non-operating	-40 °C to +125 °C
MSL:	JEDEC J-STD-020C	Level 3

Protection		
Short-circuit:	Continuous	
Thermal:	Automatic recovery	

### Ordering Information

Output Power (max)	Input Voltage	Output Voltage <sup>(11)</sup>	Output Current (min)	Output Current (max)	Maximum Load (typ)	Regulation		Model Numbers <sup>(12, 13)</sup>
						Line	Load	
99 W	8 - 14 Vdc	0.8-3.63 V	0 A	30 A	91%	±0.2%	±1.5%	SMT30E-12W3V3J

All specifications are typical 12 Vin and 1.5 V<sub>out</sub>, full load at 25 °C unless otherwise stated. C<sub>out</sub> = 100µF

## Part Number System with Options

Product Family	Rated Output Current	Performance	Input Voltage	Type of Output	Output Voltage	Packaging Options
<b>SMT</b>	<b>30</b>	<b>E</b>	<b>12</b>	<b>W</b>	<b>3V3</b>	<b>TJ</b>
SMT = Surface Mount	06 = 6 A	E = Enhanced Performance	12 = 8 Vdc to 14 Vdc	W = Wide	0.8 Vdc to 3.63 Vdc	No 'T' suffix = Pb-free RoHS 6/6 compliant parts in trays e.g. SMT30E-12W3V3J  -TJ = PB-free RoHS 6/6 compliant part in Tape and Reel e.g. SMT30E-12W3v3-TJ

### Output Voltage Adjustment of the SMT30E-12W3V3J Series

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	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low [V <sub>on/off</sub> < 0.8 V]	Unit is OFF
Remote pin pulled high [V <sub>on/off</sub> > 2.8 V]	Unit is ON

A 'Negative Logic' Remote ON/OFF version is also possible with this converter. To order please place the suffix 'R' towards the end of the model number, e.g. SMT30E-12W3V3-TRJ.

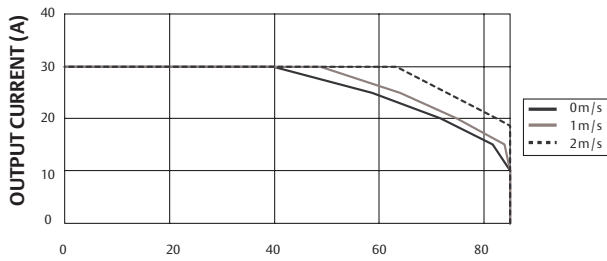
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at <http://www.powerconversion.com> to find a suitable alternative.

### Notes

- The derating curves represent the condition at which internal components are within the Emerson Network Power derating guidelines.
- Characteristic data has been developed from actual products tested at 25 °C. This data is considered typical data for the converter.

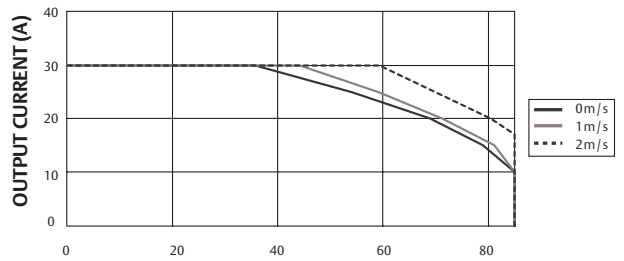
# Specifications

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated.



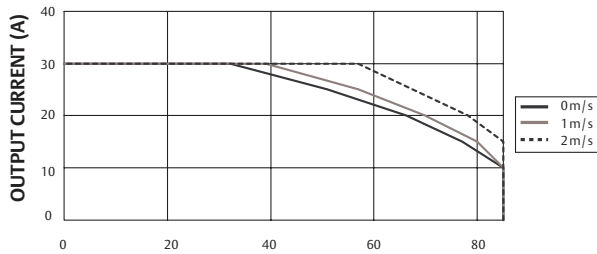
AMBIENT TEMPERATURE (°C)

Figure 1 - Derating Curve  
Vin = 12 V, Output Voltage = 1.0 V (See Note A)



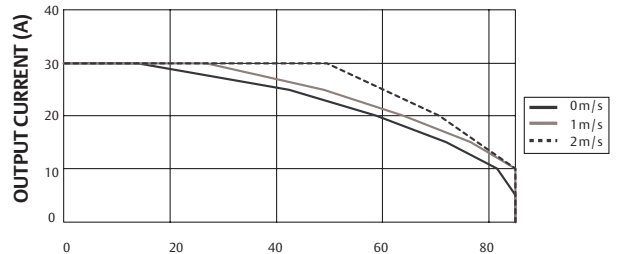
AMBIENT TEMPERATURE (°C)

Figure 2 - Derating Curve  
Vin = 12 V, Output Voltage = 1.5 V (See Note A)



AMBIENT TEMPERATURE (°C)

Figure 3 - Derating Curve  
Vin = 12 V, Output Voltage = 1.8 V (See Note A)



AMBIENT TEMPERATURE (°C)

Figure 4 - Derating Curve  
Vin = 12 V, Output Voltage = 2.5 V (See Note A)

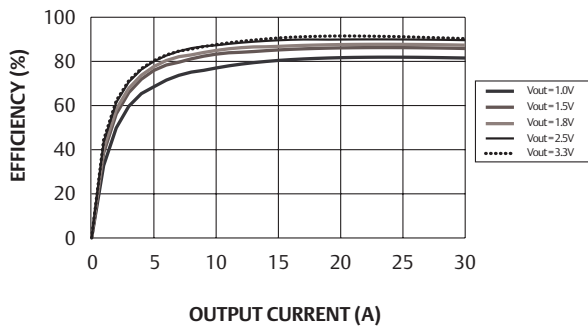


Figure 5 - Efficiency vs Load Current  
Vin = 12 V (See Note B)

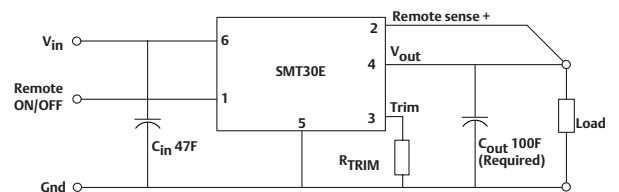
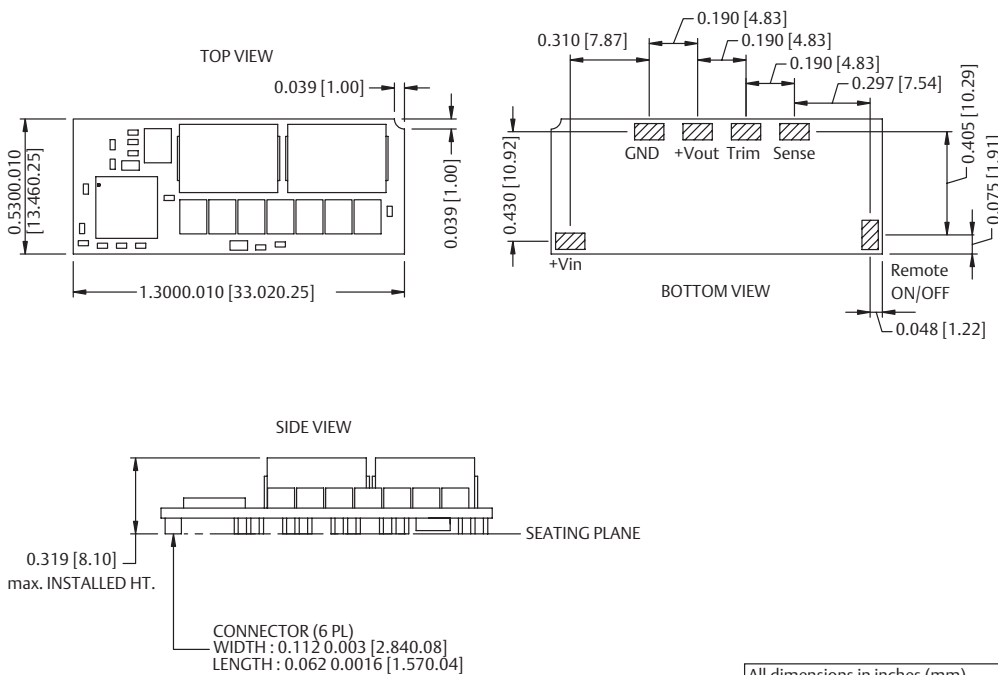


Figure 6 - Standard Application

Mechanical Drawing



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

Pin connections

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

Figure 7 - Mechanical Drawing and Pinout Table

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](http://www.powerconversion.com)  
[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)

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