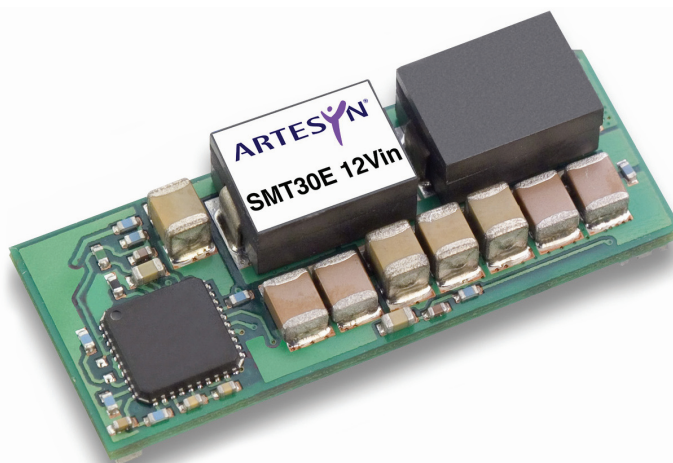


SMT30E Series

12 Vin single output

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



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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. EI74104
- UL 60950 File No. EI74104
- 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 μ s	1.5 Vout	50% to 75% load step 3% max. deviation 10 μ 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 _o max. and V _{out} = 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 ⁽¹¹⁾	Output Current (min)	Output Current (max)	Maximum Load (typ)	Regulation		Model Numbers ^(12, 13)
						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_{OUT}, full load at 25 °C unless otherwise stated. C_{OUT} = 100µF

Part Number System with Options

Product Family	Rated Output Current	Performance	Input Voltage	Type of Output	Output Voltage	Packaging Options
SMT	30	E	12	W	3V3	TJ
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 [Von/off < 0.8 V]	Unit is OFF
Remote pin pulled high [Von/off > 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

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

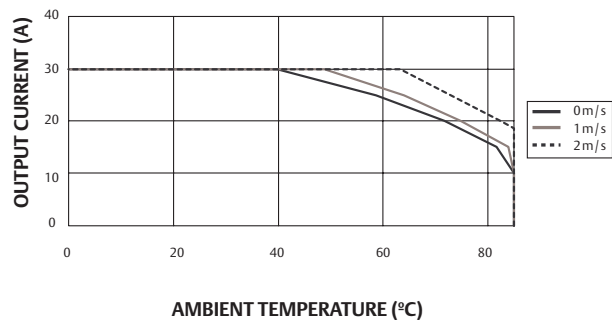


Figure 1 - Derating Curve
Vin = 12 V, Output Voltage = 1.0 V (See Note A)

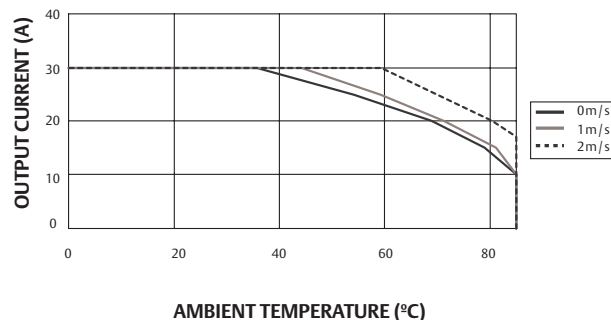


Figure 2 - Derating Curve
Vin = 12 V, Output Voltage = 1.5 V (See Note A)

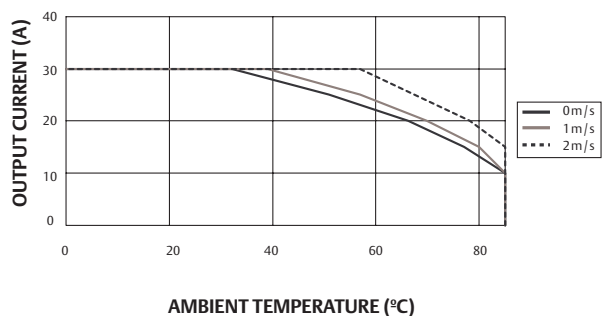


Figure 3 - Derating Curve
Vin = 12 V, Output Voltage = 1.8 V (See Note A)

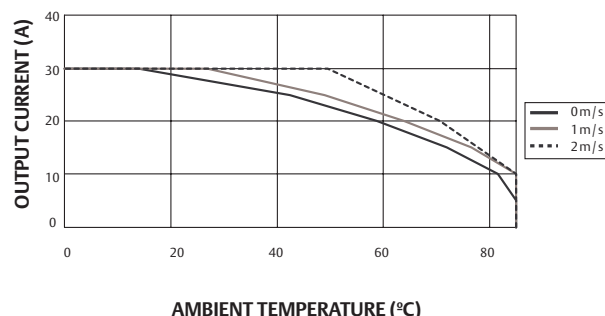


Figure 4 - Derating Curve
Vin = 12 V, Output Voltage = 2.5 V (See Note A)

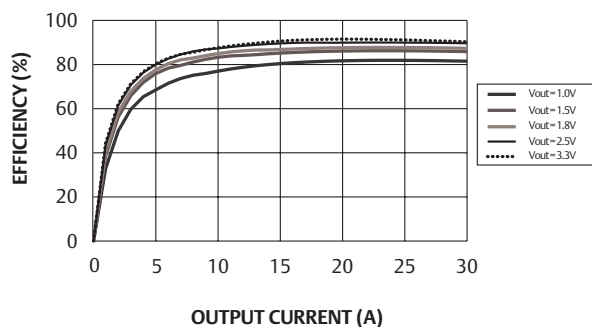


Figure 5 - Efficiency vs Load Current
Vin = 12 V (See Note B)

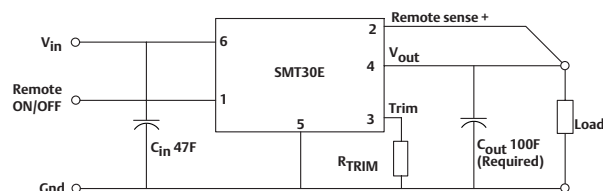
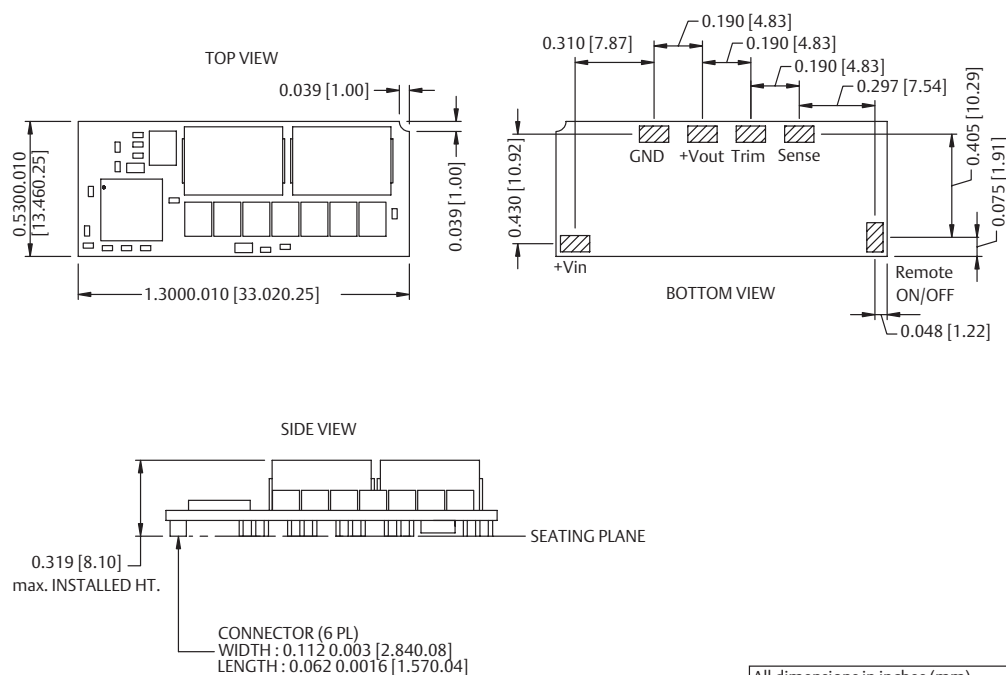


Figure 6 - Standard Application

Mechanical Drawing



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

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