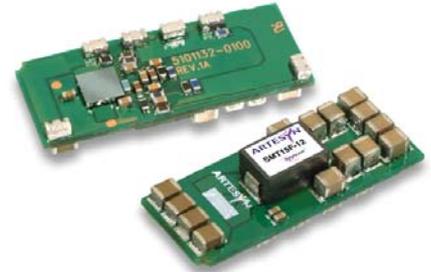


NEW Product

- **Designed to meet ultra fast transient requirements: 300A/μs step load transients**
- **15A Current rating**
- **Input voltage range: 10.8V to 13.2V**
- **Output voltage range: 1.0V to 1.8V**
- **Extremely low internal power dissipation**
- **Minimal thermal design concerns**
- **Ideal solution where board space is at a premium or tighter card pitch is required**
- **Industry standard surface-mount footprint**



The SMT15F-12 series are non-isolated DC/DC converters packaged in a surface-mount footprint giving designers a cost effective solution for conversion from a 12V source. The SMT15F-12 has an input range of 10.8V to 13.2V and offers an output voltage range from 1.0V to 1.8V with a 15A load, which allows for maximum design flexibility and a pathway for future upgrades. The SMT15F-12 is designed for applications that include distributed power, workstations, optical network and wireless applications. Implemented using state of the art surface-mount technology and automated manufacturing techniques, the SMT15F-12 offers compact size and efficiencies of up to 88% at 1.8Vout.

cUL[®] **US** TÜV

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated
 $C_{in} = 270\mu F$, $C_{out} = 0\mu F$

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	(Trimmable)	±10%
Setpoint accuracy		±2.5% typ.
Line regulation		±1.0% typ.
Load regulation		±1.0% typ.
Total error band		±3.0% typ.
Minimum load		0A
Overshoot/undershoot		None
Ripple and noise	5Hz to 20MHz	40mV pk-pk 25mV rms
Temperature co-efficient		±0.01%/°C
Transient response (1.2Vout)	di/dt 200A/μs (See Note 3)	7.5A load step 50mV max. deviation <10μs recovery to within ±1.0%
Remote sense		10% Vo compensation

INPUT SPECIFICATIONS

Input voltage range		10.8 to 13.2VDC
Input current	No load	100mA
Input current (max.)		2.0A max. @ Io max. and Vout = 1.2V
Input reflected ripple		100mA rms
Remote ON/OFF		(See Note 1)
Start-up time		5ms

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency	Vin = 12V, Vout = 1.8V	88% typ.
Insulation voltage		Non-isolated
Switching frequency Vin = 12V, Vout = 1.2V	Variable	700kHz typ.
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions	(LxWxH)	33.02 x 13.46 x 7.57mm 1.3 x 0.53 x 0.298 inches
Weight		7g (0.25oz)
Coplanarity		100μm
MTBF	Telcordia SR-332	TBD hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Figure 1)	Operating ambient, temperature Non-operating	-40°C to +85°C -40°C to +125°C
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PROTECTION

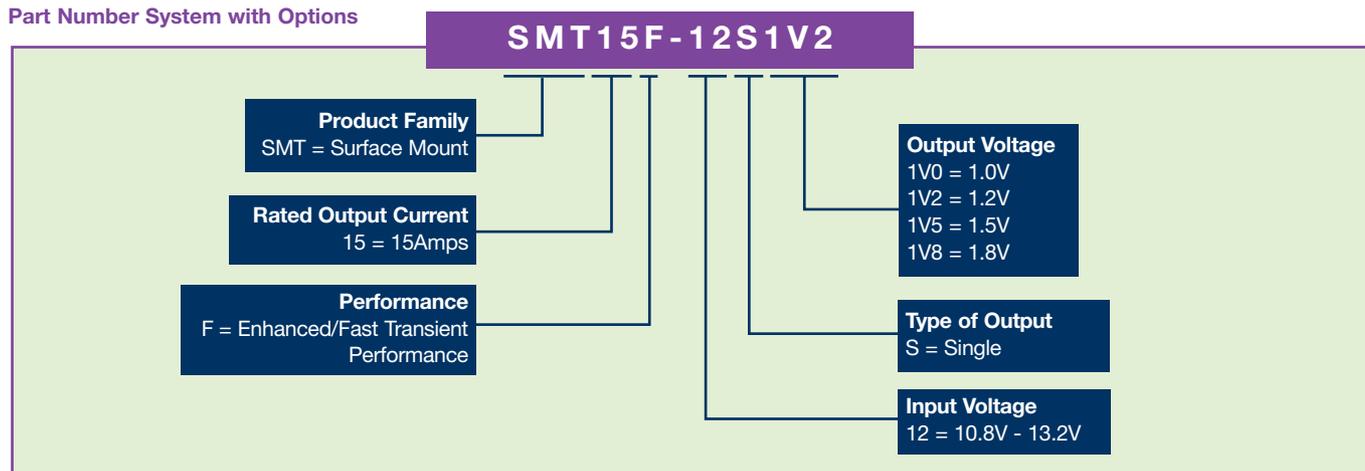
Short-circuit protection	Continuous
Thermal protection	Automatic recovery

International Safety Standard Approvals

cUL[®] **US** UL/cUL CAN/CSA 22.2 No. E174104
UL 60950 File No. E174104
TÜV TÜV Product Service (EN60950) Certificate No. B 04 04 38572 041
CB report and certificate to IEC60950

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ⁽¹⁾
						LINE	LOAD	
15.0W	10.8V - 13.2V	1.0V	0A	15A	85%	±1.0%	±1.0%	SMT15F-12S1V0
18.0W	10.8V - 13.2V	1.2V	0A	15A	86%	±1.0%	±1.0%	SMT15F-12S1V2
22.5W	10.8V - 13.2V	1.5V	0A	15A	87%	±1.0%	±1.0%	SMT15F-12S1V5
27.0W	10.8V - 13.2V	1.8V	0A	15A	88%	±1.0%	±1.0%	SMT15F-12S1V8

Part Number System with Options



Notes

- The SMT15F-12 features an 'Active High' 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 SMT15F-12:

Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low	Unit is OFF
Remote pin pulled high	Unit is ON

An 'Active Low' Remote ON/OFF version is also possible with this converter. Please consult the factory for details.

- A 270µF electrolytic input capacitor maybe required for test purposes only.
- An external output capacitor is not required for basic operation. Adding distributed capacitance at the load will improve the transient response.

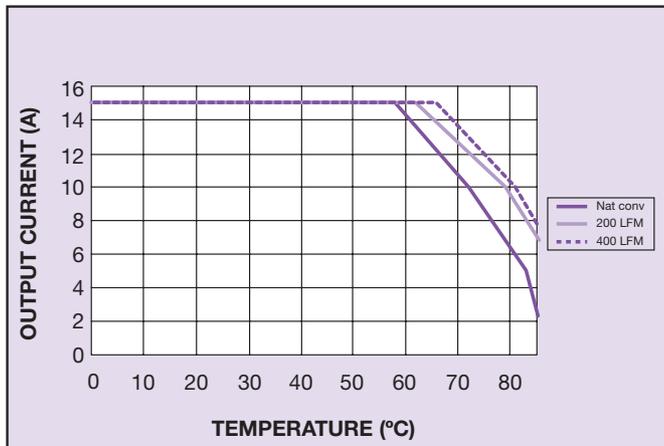


Figure 1 - De-rating Curve
Vin = 12V, Output Voltage = 1.2V (See Note A)

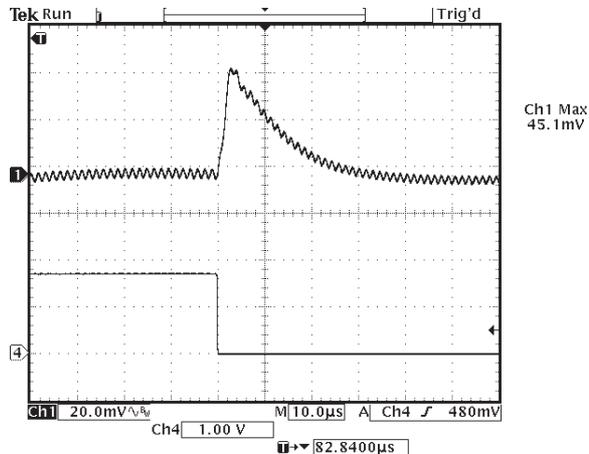


Figure 2 - Typical Transient Response,
(Vin = 12V, Output Current = 1.2V),
7.5A Load Step Change; Slew Rate = 200A/µs
Channel 1: Voltage Deviation = 45mV; Recovery Time = 10µs

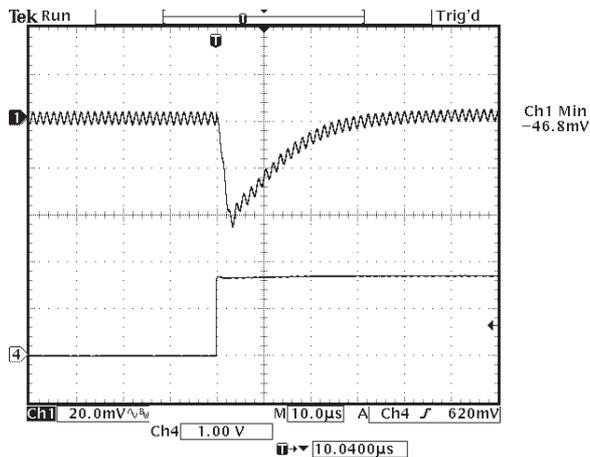


Figure 3 - Typical Transient Response,
(Vin = 12V, Output Current = 1.2V),
7.5A Load Step Change; Slew Rate = 200A/µs
Channel 1: Voltage Deviation = 46.8mV; Recovery Time = 10µs

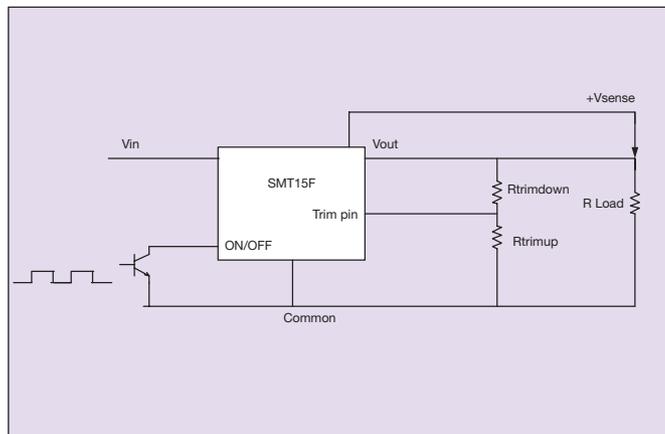
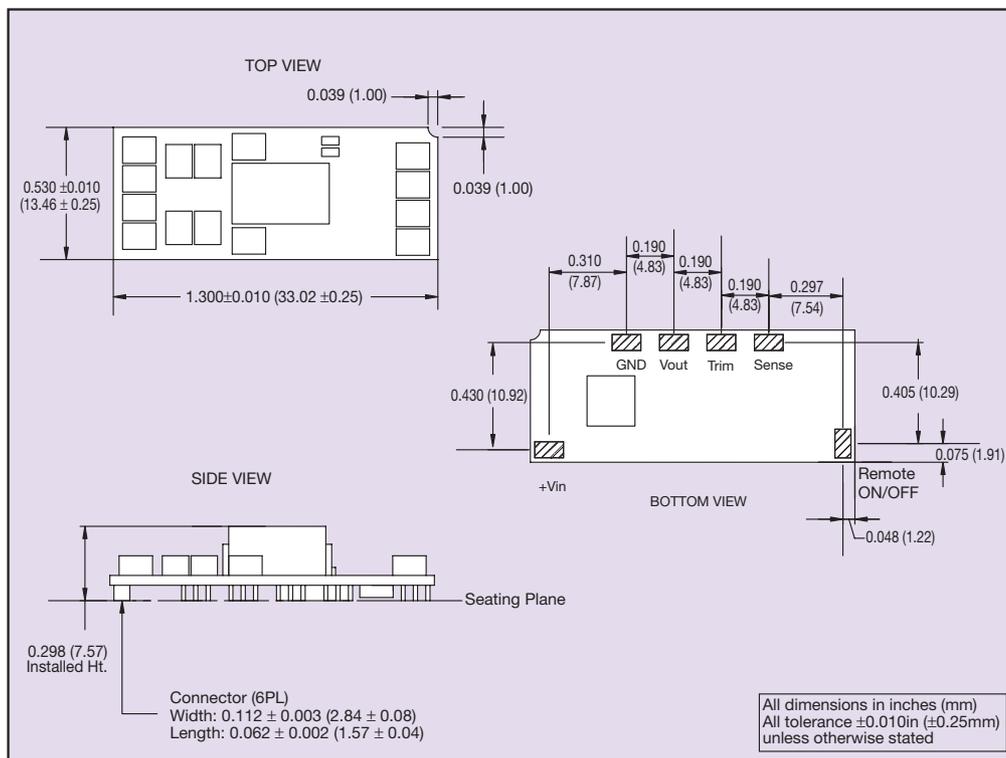


Figure 4 - Standard Application

Notes

A The de-rating curve represents the conditions at which internal components are within the Artesyn de-rating guidelines.



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vin
2	GND
3	+Vout
4	Trim
5	+Vsense
6	Remote ON/OFF

Figure 5 - Mechanical Drawing and Pinout Table