

Electrical characteristics are guaranteed over the max baseplate temperature range (-40 to 105°C), for the full range of input voltage ( $V_I$ ), and for the full load range ( $I_{O\ min}$  to  $I_{O\ rated}$ ) unless otherwise noted.  $V_I$ ,  $V_O$ , and  $I_O$  are actual operating conditions,  $I_{O\ rated}$  is nominal rating.

## Electrical Specifications

**18.0-75.0V in; 12.0V/1.67A out**

### Input Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
$V_I$	Input voltage		18	48.0	75.0	V
$P_{IL}$	No load input power	$V_I = V_{I\ nom}$		0.2		W
$C_{IN}$	Input capacitance (internal)			2.2		$\mu$ F
$I_I$	Input ripple current ❶	$V_I = V_{I\ nom}, I_O = I_{O\ rated}$		100		mA p-p

### Output Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
$P_{O\ max}$	Total output power ❷			20		W
$V_{O1\ nom}$	Nominal (factory set) output voltage Output 1		11.88	12.00	12.12	V
$I_{O1\ rated}$	Rated output current Output 1	$T_{Baseplate} = 105^\circ\text{C}$			1.67	A
	Noise and ripple ❸ Output 1	PK-pk, 20MHz bandwidth with a 0.1 $\mu$ F ceramic capacitor			50	mV
$V_{O1}$	Load regulation ❹	From 10% to 100% of rated output current		0.1	0.5	% $V_{O1}$
$V_{O1}$	Line regulation ❹	$V_{I\ min}$ to $V_{I\ max}$ $I_O = I_{O\ typ}$		0.1	0.25	% $V_{O1}$
$I_{O1\ lim}$	Current limit		2.0		A	

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### Output Characteristics - continued

Symbol	Parameter	Conditions	Min	Typ	Max	Units
$\eta$	Efficiency $\text{Ⓢ}$	$V_i = 12.0\text{ Vdc}$ , $I_o = I_{o\ rated}$ (see eff. graph)	85	86		%
$t_{on}$	Turn-on time	$V_i = 0$ to $V_{Inom}$		100		mS
	Transient Response	positive or negative step $I_o = 0\%$ to $100\% I_{o\ rated}$ @ $1A/\mu s$ total deviation		2 3	3 4	ms % $V_{O1\ nom}$

### Control Signals -Pins

Symbol	Parameter	Conditions	Min	Typ	Max	Units
$V_{Out}$	Output Voltage	Remote On/Off pin $2.5 < V_c < 5.5$ or open circuit $V_c < 0.8V$		12.0 0		V V
$V_{Out}$	Output Voltage	Trim Adjust	90		110	%



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**Isolation Characteristics**

Symbol	Parameter	Conditions	Min	Typ	Max	Units
	Input to Output	1500Vdc	10			Mohm
	Output to Baseplate	1500 Vdc	10			Mohm

**Notes:**

- ❶ Input ripple current measured with no additional external input filtering.
- ❷ Total output power of converter may not be exceeded by the trim function increasing V out. The rated power output is based on the V out measurement obtained at the output power pins multiplied by the output current.
- ❸ Output ripple and noise measured is specified over a 20MHz bandwidth. When testing output ripple it is important to reduce the ground connection for the scope to less than .5". Output ripple measured with a 10 microfarad tantalum decoupling capacitor.
- ❹ Line and Load regulation are measured from the (+) output (pin6) and the common (pin 7). Measurements should be taken at the pins in order to eliminate variations caused by line loss due to highly resistive connections.



Figure 1

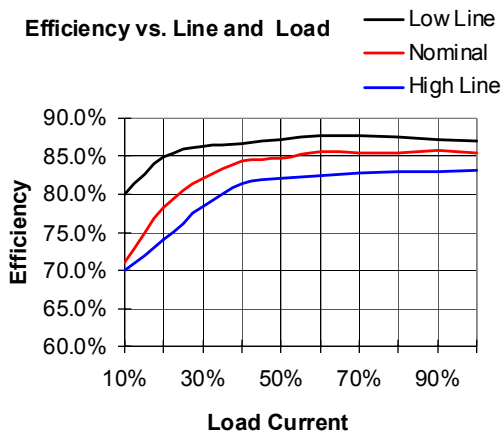


Figure 2

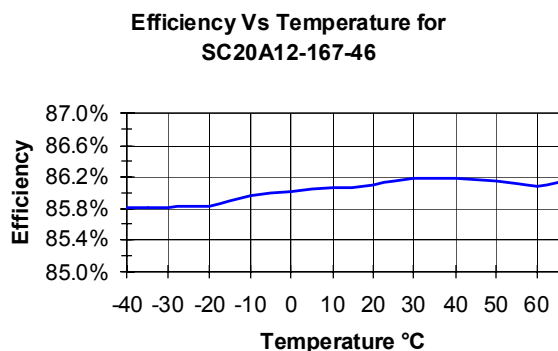


Figure 3

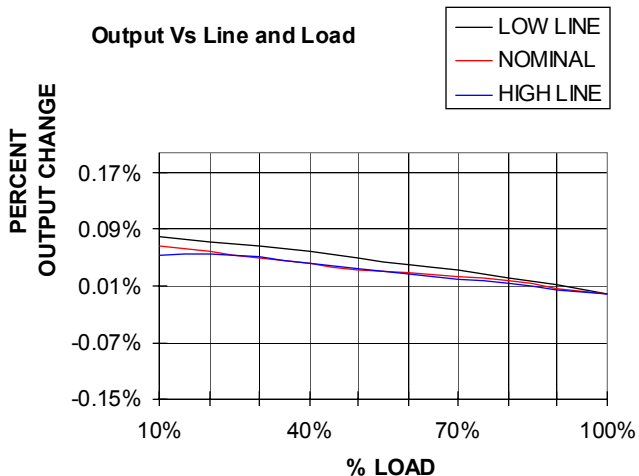


Figure 4

MTBF

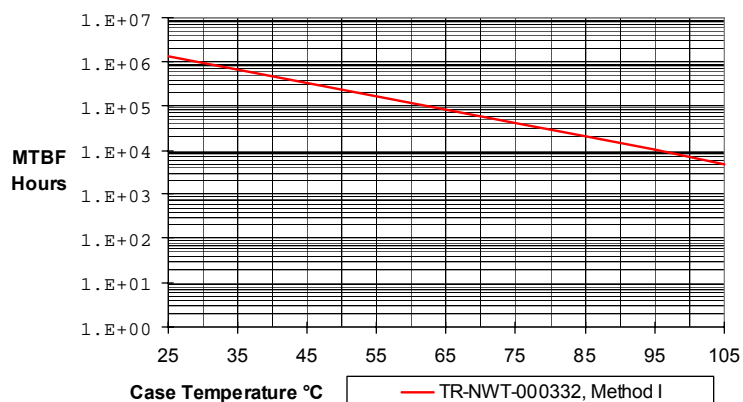


Figure 5

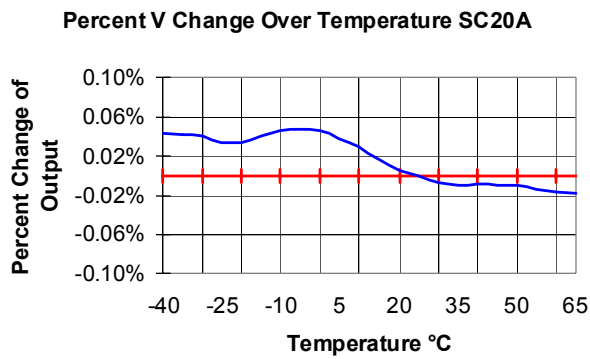


Figure 6

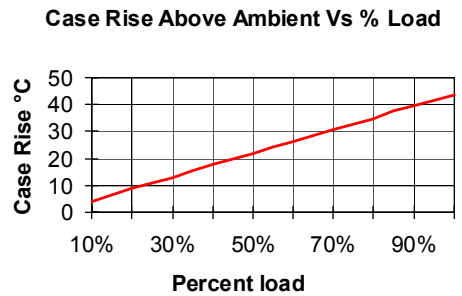
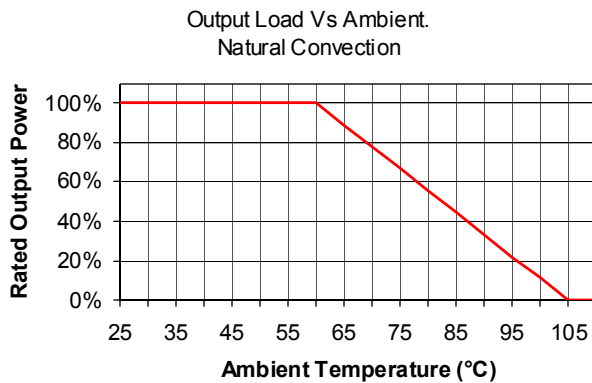


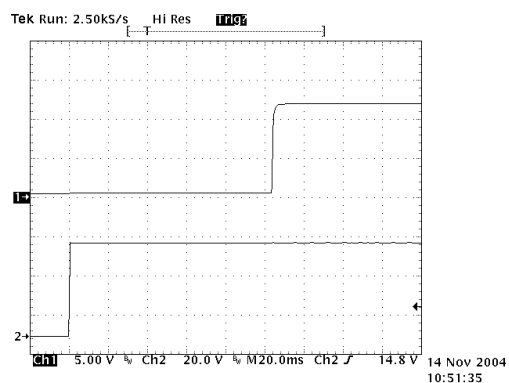
Figure 7



Turn on Characteristics (Typ)

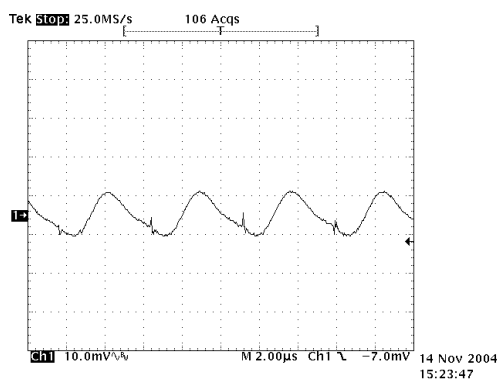
$V_{in} = 48.0 \text{ Vdc}$ ,  $I_{load} = 1.67 \text{ A}$

Figure 8



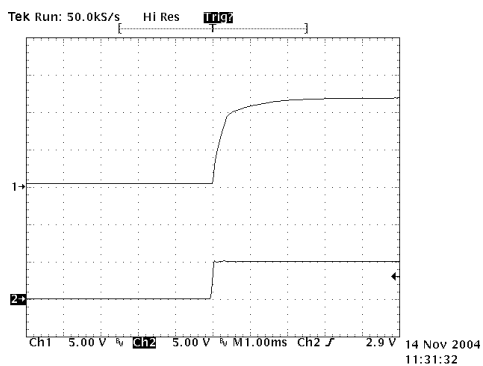
Input Reflected Ripple 10mA/mV

Figure 9



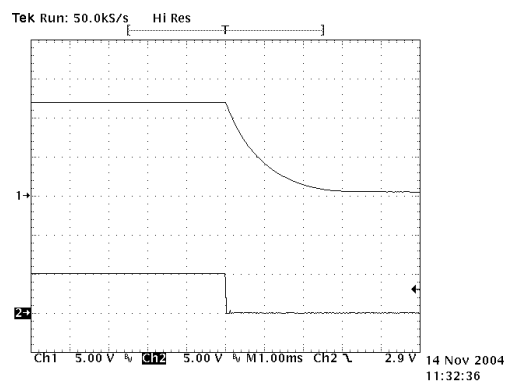
Enable going high

Figure 10



Enable going low

Figure 11

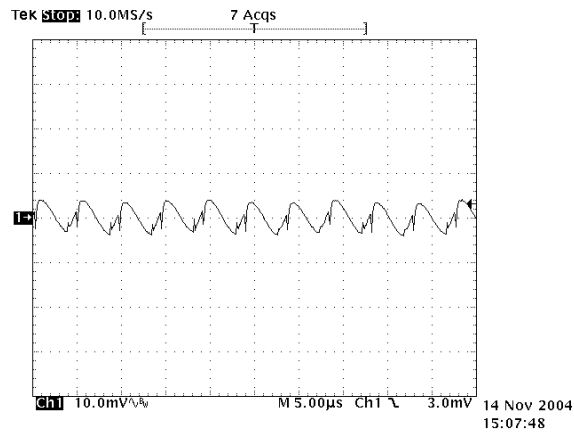


Output Characteristics (Typ)

Figure 12

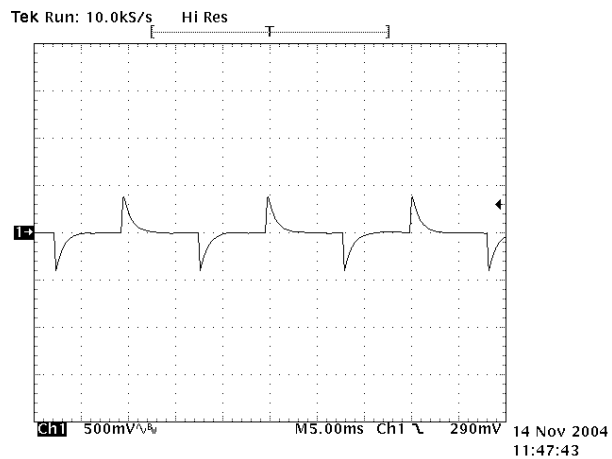
Output Ripple

$V_{in} = 48.0 \text{ Vdc}$ ,  $I_{load} = 1.67\text{A}$



Dynamic Load Response  
50%-100% load swing

Figure 13



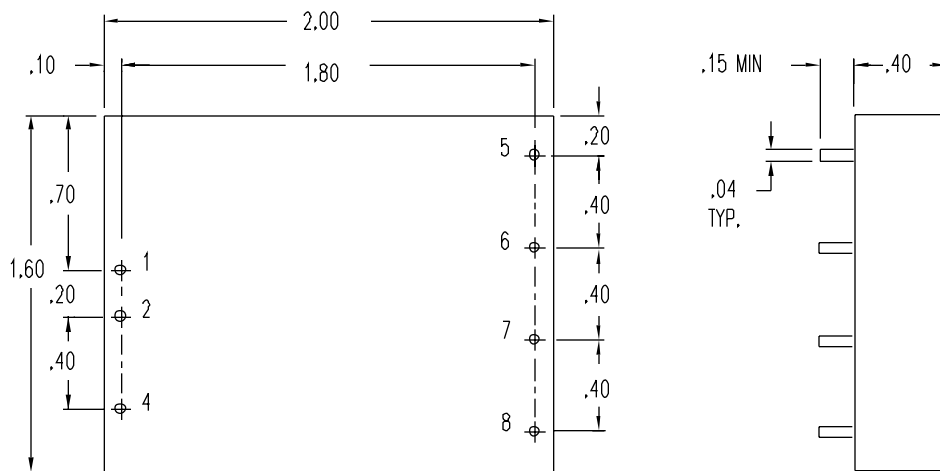
**PIN CONNECTIONS**

- 1. + Input
- 2. - Input
- 3. No Pin
- 4. ON/OFF Control
- 5. No Pin
- 6. + Output
- 7. Output Common
- 8. Trim

Figure 14

**PIN Diameters**

Pins 1,2,4, 6-8     0.040 ±0.002



BOTTOM VIEW

Figure 11

