Electrical characteristics are guaranteed over the max hotspot temperature range (-40 to 110°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 10.8-13.2V in; 3.3V/10A out

Input Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_I	Input voltage		10.8	12.0	13.2	V
P_{IL}	No load input power	V_I=V_{Inom}		0.2		W
C_{IN}	Input capacitance (internal)			112		µF
I_I	Input ripple current ❶	$V_{I=}V_{nom}$, $I_{o=}I_{o\ rated}$		15		mA p-p

Output Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
$P_{O\ max}$	Total output power ❷			33		W
$V_{O1\ nom}$	Nominal (factory set) output voltage Output 1		3.267	3.300	3.330	V
$I_{O1\ rated}$	Rated output current Output 1	$T_{Baseplate}$ = 105°C		1.0	10	A
	Noise and ripple ❸ Output 1	Pk-pk, 20MHz bandwidth with a 0.1µF ceramic capacitor		25	50	mV
V_{O1}	Load regulation ❹	From 10% to 100% of rated output current			0.25	$\%V_{O1}$
V_{O1}	Line regulation ❹	V_{Imin} to V_{Imax} I_O = $I_{O\ typ}$			0.1	$\%V_{O1}$
$I_{O1\ lim}$	Current limit			17		A
	Temperature coefficient	Per °C baseplate temperature		±0.02		$\%V_{O\ nom/\ °C}$

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Electrical characteristics are guaranteed over the max hotspot temperature range (-40 to 110°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 10.8-13.2V in; 3.3V/10A out

Output Characteristics - continued

Symbol	Parameter	Conditions	Min	Typ	Max	Units
η	Efficiency ❺	V_I = 12.0 Vdc, $I_O = I_{O\ rated}$ (see eff. graph)	92	93		%
t_{on}	Turn-on time					
		V_I = 0 to V_{Inom}		20		mS
		V_I = 0 to V_{Imin}		20		mS
		V_I = 0 to V_{Imax}		20		mS
	Transient Response					
		positive or negative step				
		I_O = 0% to 100% $I_{O\ rated}$ @ 1A/µs		60	200	µs
		total deviation		4	6	$\%V_{O1\ nom}$

Control Signals -Pins

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{Out}	Output Voltage					
		Remote On/Off pin		3.3		V
		2.5 < V_C < 5.5 or open circuit				
		V_C < 0.8V		0		V
V_{Out}	Output Voltage	Trim Adjust	90		110	%

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Notes:

❶ Input ripple current measured with additional external input filtering as follows: 47µf electrolytic, 1.5µH inductor, 47µf electrolytic.

❷ Total output power of converter may not be exceeded by the trim and or remote sense 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".

❹ Line and Load regulation are measured from the (+) remote sense (pin3) and the common (pin 5). Measurements should be taken at the pins in order to eliminate variations caused by line loss due to highly resistive connections.

❺ Because of the nature of low voltage outputs, efficiency calculations are often made in error. The total power out of the converter is the measurement of the voltage AT THE POWER PINS (1,2,4) and the common pin (5) multiplied by the load current. You then divide that number by the measured input voltage AT THE (+) INPUT PINS (7,8) and the common pin (6) multiplied by the input current draw. Any deviation from the above mentioned method will result in efficiencies values much lower than what are actually obtained.

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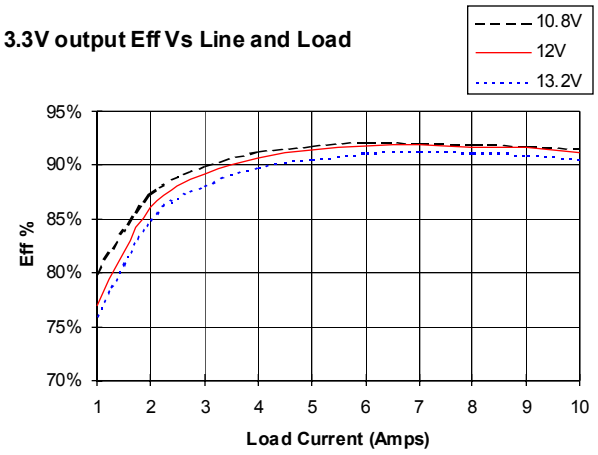
Efficiency

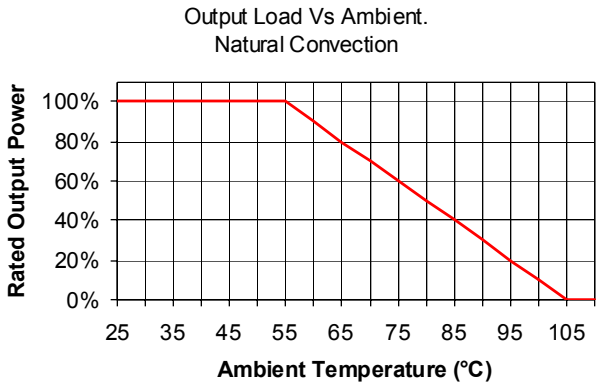
(Typ)

Figure 1



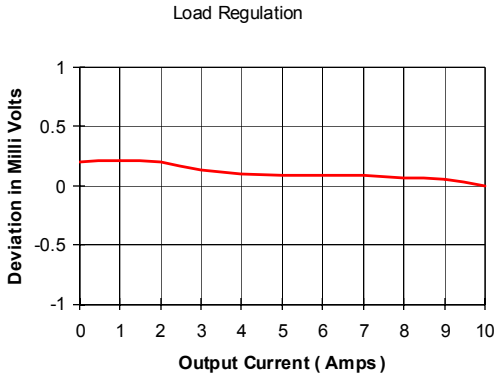
Output Power Derating

Figure 2



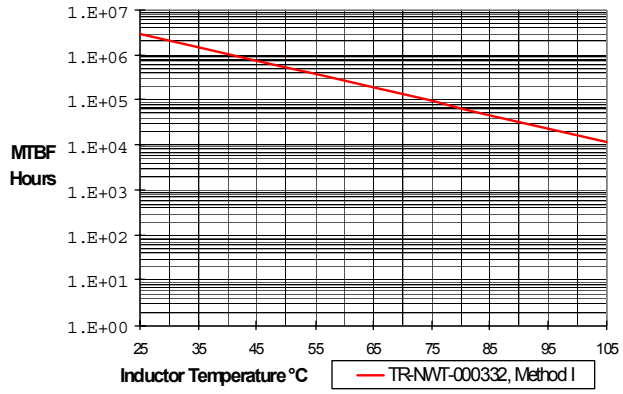
Output Regulation Vs. Loading (Typ)

Figure 3



MTBF

Figure 4



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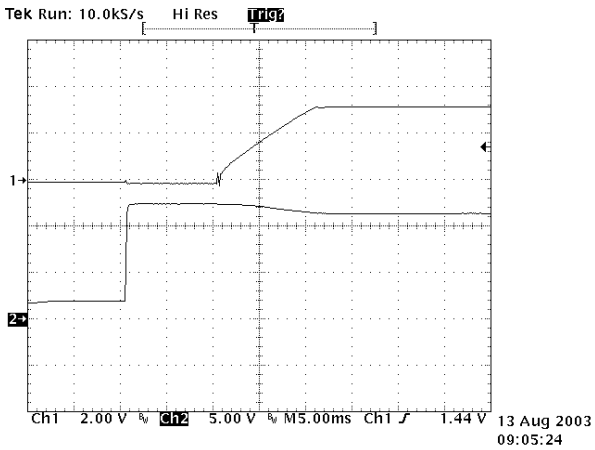
Turn on Characteristics (Typ)

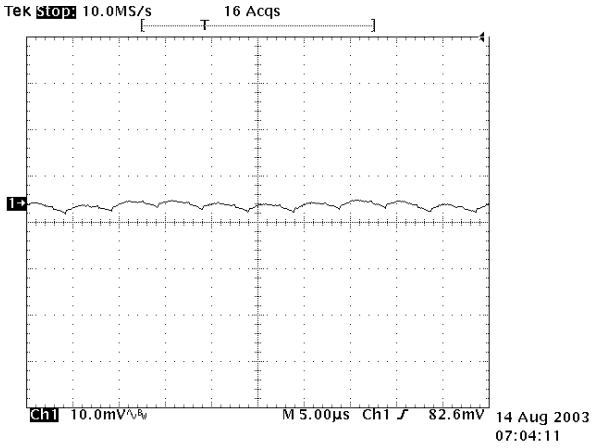
V_{in} = 12.0 Vdc, I_{load} = 10A

Figure 5



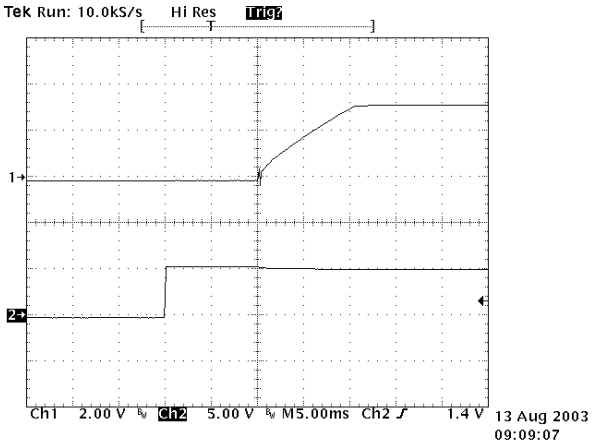
Input Reflected Ripple 10mA/mV

Figure 6



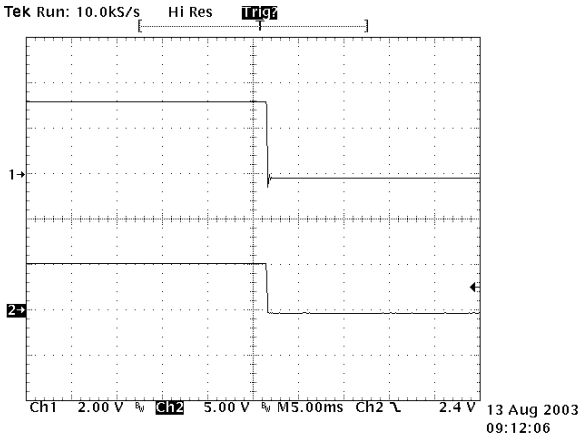
Enable going high

Figure 7



Enable going low

Figure 8



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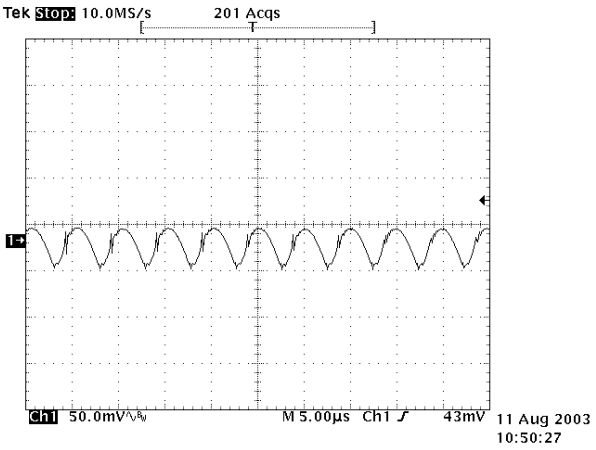
Ouptput Characteristics (Typ)

Figure 9

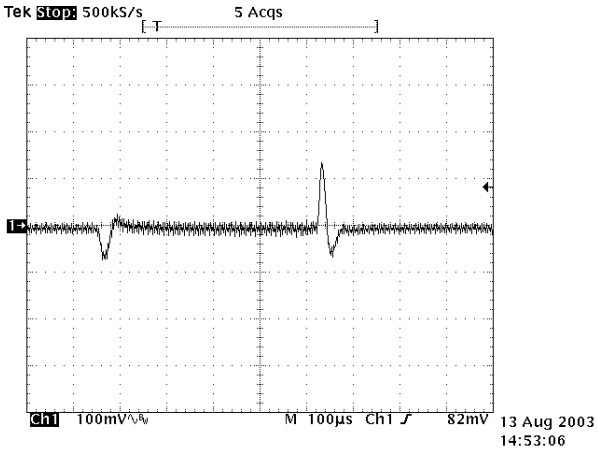
Output Ripple

V_{in} = 12.0 Vdc, I_{load} = 10A
100 µf electrolytic across output pins



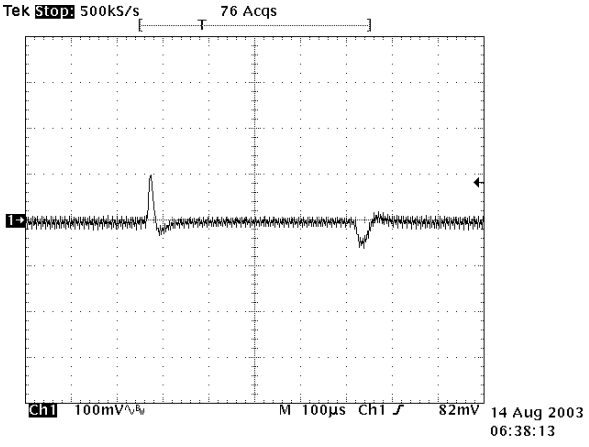
Dynamic Load Response
0%-100% load swing
100 µf electrolytic added to output

Figure 10



Dynamic Load Response
0%-100% load swing
2200 µf electrolytic added to output

Figure 11



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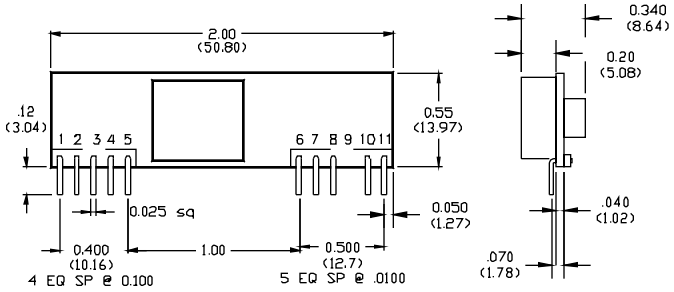
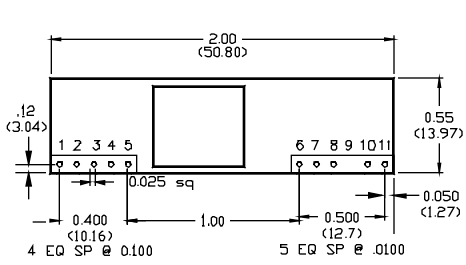
PIN CONNECTIONS

1. + Output
2. + Output
3. Remote Sense (B option - no pin)
4. + Output
5. Common
6. Common
7. +Input
8. +Input
9. No pin
10. Trim
11. Remote On/Off

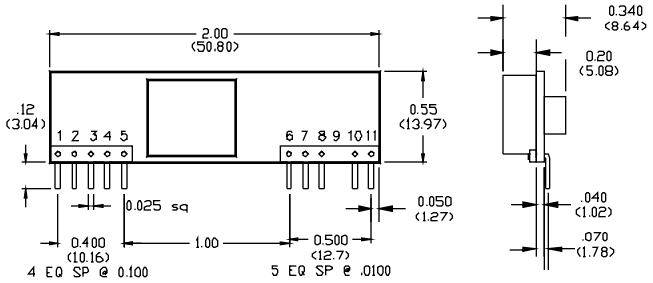
Figure 12



OPTION V



OPTION H



OPTION RV
Tyco-compatible

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