



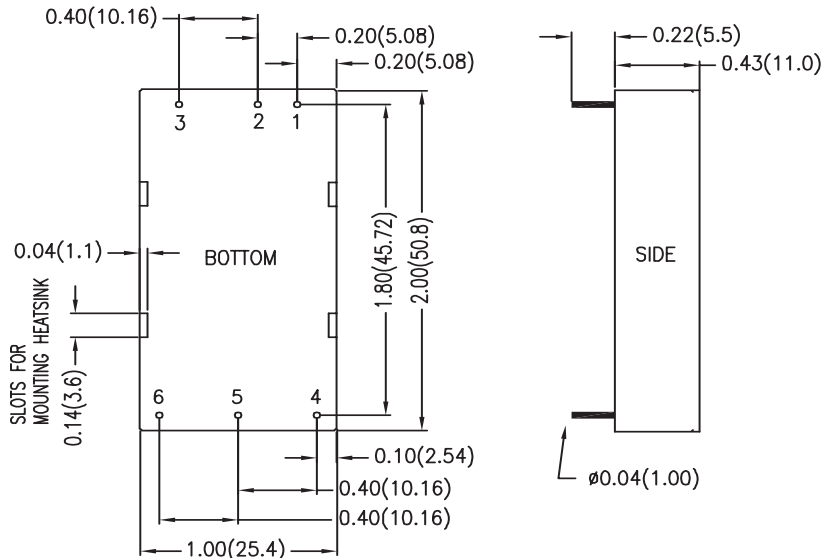
- Efficiency up to 92%
- 1500VDC Isolation
- 4:1 Wide Input
- Over Voltage Protection
- Short Circuit Protection
- Over Voltage Shutdown
- Six Sided Shielding
- Remote On/Off Control
- RoHS Compliant



50 Watt TMX Single Series



Model Number	Voltage			Current			Over Voltage Protection	Input Overvoltage (1000ms)	Reflected Ripple Current	Efficiency	Capacitive Load
	Input		Output	Input		Output					
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Max (mA)	Typ (mA)	Max (VDC)	mA (Typ)	@ Max Load (% Typ)	Max (Dual each output)
TMX33H24S3R3	24	9-36	3.3	80	1528	10000	3.9	50	40	90	26000µF
TMX50H24S5	24	9-36	5	60	2290	10000	6.2	50	40	91	17000µF
TMX50H24S12	24	9-36	12	80	2267	4170	15	50	40	92	3000µF
TMX50H24S15	24	9-36	15	80	2263	3330	18	50	40	92	2000µF
TMX50H24S24	24	9-36	24	80	2286	2080	30	50	40	91	750µF
TMX33H48S3	48	18-75	3.3	40	764	10000	3.9	100	30	90	26000µF
TMX50H48S5	48	18-75	5	30	1145	10000	6.2	100	30	91	17000µF
TMX50H48S12	48	18-75	12	60	1134	4170	15	100	30	92	3000µF
TMX50H48S15	48	18-75	15	60	1134	3330	18	100	30	92	2000µF
TMX50H48S24	48	18-75	24	50	1143	2080	30	100	30	91	750µF



Pin Connections	
Pin	Single
1	+Vin
2	-Vin
3	Remote On/Off
4	+ Vout
5	-Vout
6	Trim



See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Start Voltage 24 Vin 48 Vin			9 18	VDC
Under Voltage Shutdown 24 Vin 48 Vin		7.5 16		VDC
Switching Frequency		285		kHz
Start-Up Time Power-up and Remote ON/OFF	30ms Nominal Vin and Constant Resistive Load			
Input Filter	LC Filter			
Input Polarity Protection	None			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy			±1.0	%
Load Regulation Min. Load to Full Load			±0.5	%
Line Regulation Vin=Min. to Max.			±0.5	%
Ripple & Noise (20MHz) 3.3V & 5 V Models		100		mV P-P
Ripple & Noise (20 MHz) 12V,15V and 24V Models		150		mV P-P
Over Load Protection Hiccup @ Nominal Vin			150	Iout%
Transient Recovery Time 25% Load Step Change		250		µs
Temperature Coefficient			±0.02	% / °C
Short Circuit Protection	Hiccup Automatic Recovery			
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V			2200	pF
Operating Temperature (Ambient) 3.3 Vout 12 & 15 Vout 5 & 48 Vout	-40 -40 -40		61 53 46	°C
Operating Temperature (Case)			+105	°C
Storage Temperature	-55		+125	°C
Thermal Impedance Natural Convection Natural Convection with heatsink	12.1 9.8			°C/W
Thermal Protection Shutdown Temperature		110		°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	>233			K Hours
Cooling	Free-Air Convection			
Case Size	2.0 x 1.0 x 0.43 inches 50.8 x 25.4 x 11.0 mm			
Case Material	Six Sided Shielding Metal Case (UL94V-0)			
Weight	34g			
Agency Approval (Pending)	CSA/UL 60950			

Remote On/Off Control	Min	Typ	Max	Units
DC/DC On	3.5V - 12V or Open Circuit			
DC/DC Off	0V - 1.2V or Short Circuit			
Control Input Current (on) Vctrl = 5.0V		0.5		mA
Control Input Current (off) Vctrl = 0 V		-0.5		mA
Control Common	Referenced to Negative Input			
Standby Input Current Nominal Vin		2.5		mA
Output Voltage Trim				
Trim Up / Down Range 24Vo All other models	% of nominal output voltage +20/-10% ±10%			

Input Fuse Selection Table

24V Input	10000 mA Slow-Blow
48V Input	5000 mA Slow-Blow

External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.

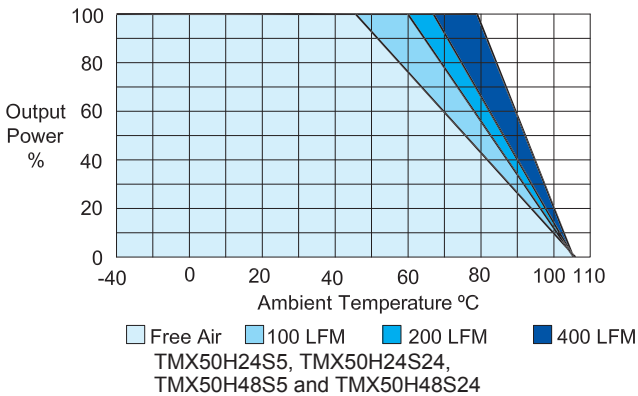
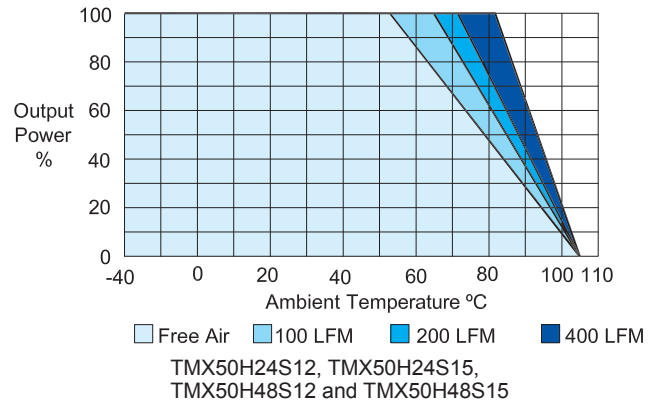
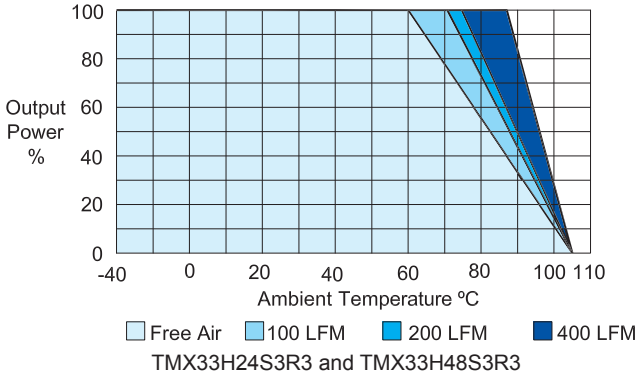
Notes:

1. Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
2. Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
3. ConTech power converters require a minimum output loading to maintain specified regulation. Operation under no-load conditions will not damage these modules; however, they may not meet all specifications listed.
4. The series has a limitation of a maximum connected capacitance at the output. The power module may be operated in current limiting mode during start-up, affecting the ramp-up and the startup time.
5. Ripple & Noise measurement bandwidth is 20MHz, measured with a 1 µF MLCC and a 10 µF Tantalum Capacitor.
6. Water washability - ConTech DC/DC converters are designed to withstand most solder/wash processes. Careful attention should be used when assessing the applicability in your specific manufacturing process. Converters are not hermetically sealed.
7. See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html
8. Specifications subject to change without notice.
9. See ConTech website www.ConTech-us.com/pdf/rohs.pdf for RoHS Statement.

Derating Curve

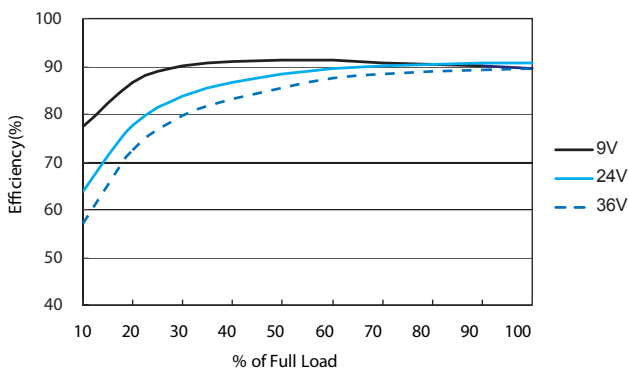
50 Watt TMX

To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 105°C.

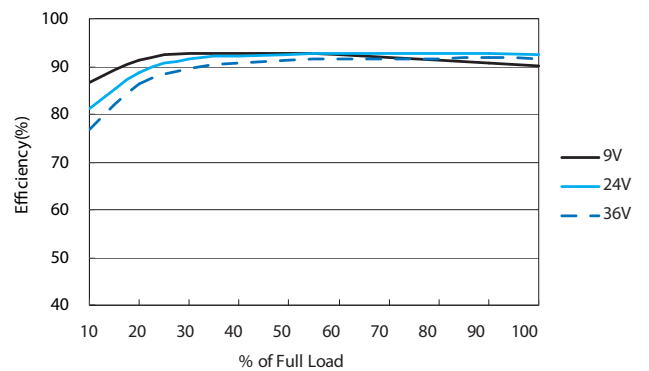


Efficiency Curve

Single Output @ 25°C

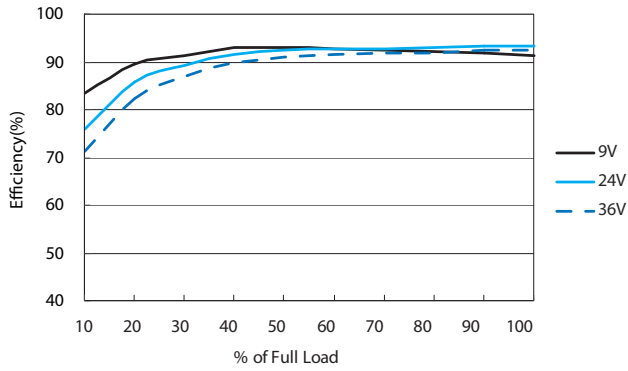


TMX33H24S3R3

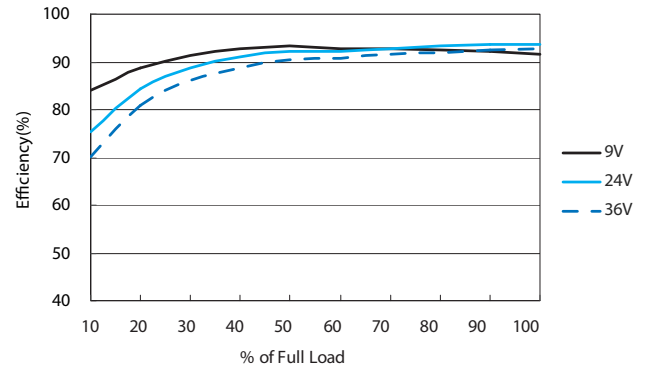


TMX50H24S5

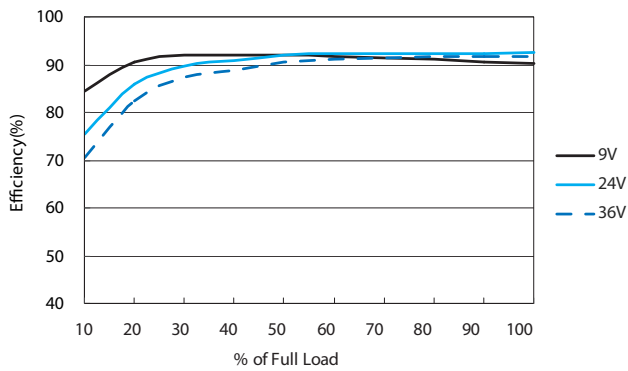
50 Watt TMX



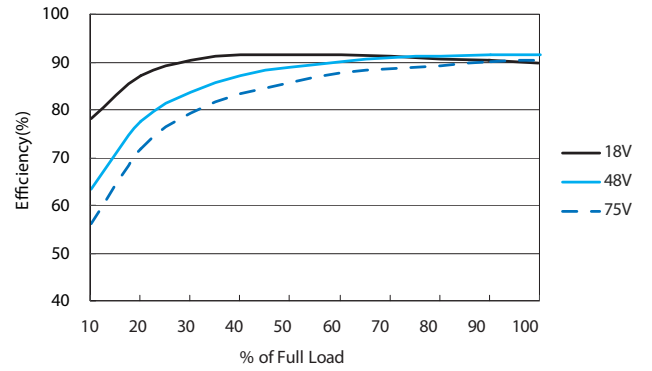
TMX50H24S12



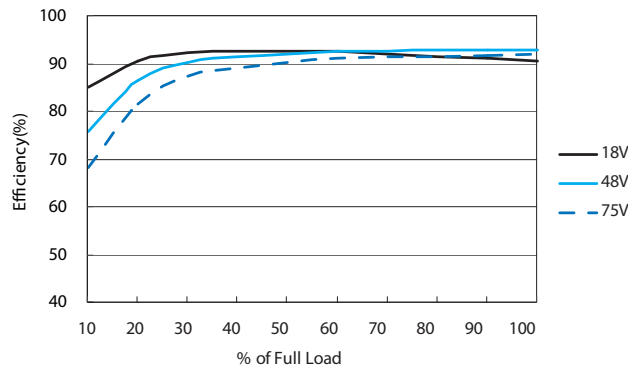
TMX50H24S15



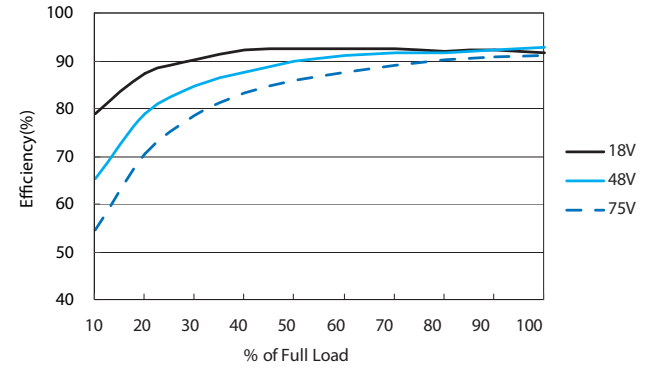
TMX50H24S24



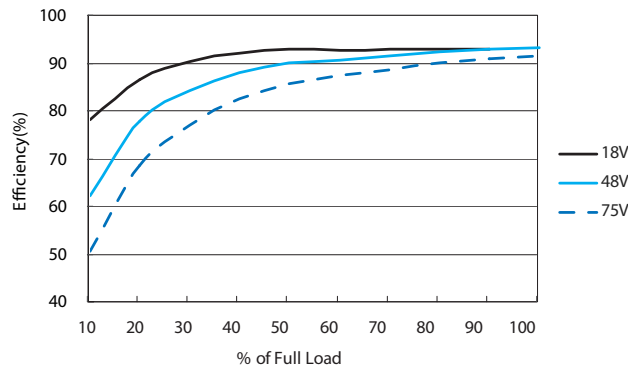
TMX33H48S3R3



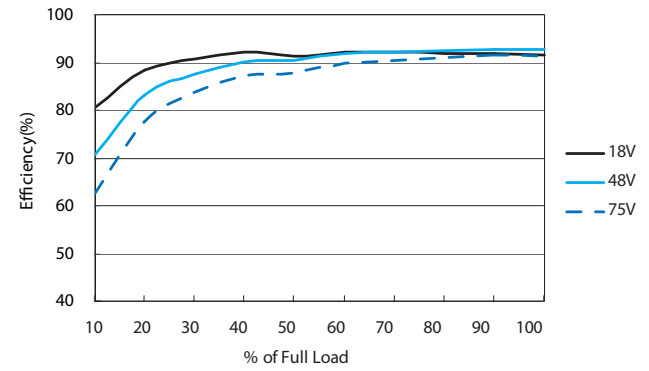
TMX50H48S5



TMX50H48S12



TMX50H48S15



TMX50H48S24

