



- Efficiency up to 90%
- 1500 VDC Isolation
- Single Output Up to 4.5A
- Over Voltage Protection
- 4:1 Ultra Wide Input Range
- Six Sided Shielding
- Remote On/Off Control
- RoHS Compliant

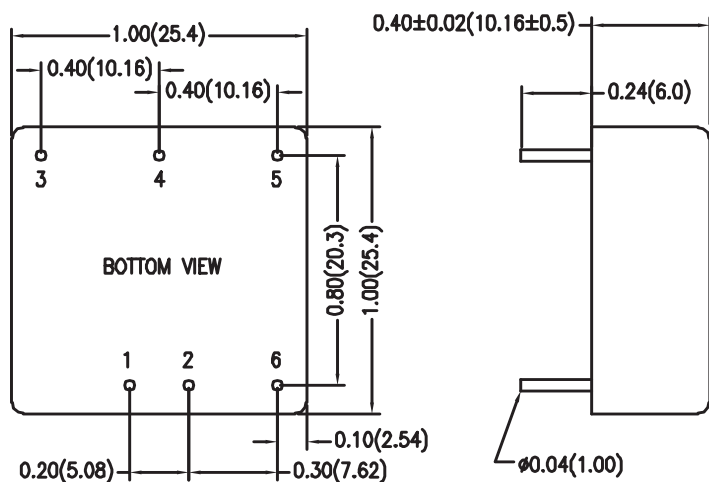


20 Watt QMJ Single and Dual Series



Model Number	Voltage		Current				Reflected Ripple	Over Voltage Protection	Input Overvoltage (1000ms)	Efficiency*	Capacitive Load	
	Input		Input		Output							
	Nom. (VDC)	Range (VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)						Typ (mA)
QMJ15H24S3R3	24	(9-36)	3.3	80	1390	0	4500	50	3.9	50	89	10300
QMJ20H24S5	24	(9-36)	5	90	1852	0	4000	50	6.2	50	90	6800
QMJ20H24S12	24	(9-36)	12	40	1877	0	1670	50	15	50	89	1200
QMJ20H24S15	24	(9-36)	15	40	1882	0	1340	50	18	50	89	750
QMJ20H24D12	24	(9-36)	±12	40	1877	±60	±835	50	±15	50	89	680
QMJ20H24D15	24	(9-36)	±15	40	1882	±50	±670	50	±18	50	89	380
QMJ15H48S3R3	48	(18-75)	3.3	40	695	0	4500	30	3.9	100	89	10300
QMJ20H48S5	48	(18-75)	5	45	926	0	4000	30	6.2	100	90	6800
QMJ20H48S12	48	(18-75)	12	25	938	0	1670	30	15	100	89	1200
QMJ20H48S15	48	(18-75)	15	25	930	0	1340	30	18	100	90	750
QMJ20H48D12	48	(18-75)	±12	25	938	±60	±835	30	±15	100	89	680
QMJ20H48D15	48	(18-75)	±15	25	941	±50	±670	30	±18	100	89	380

* Efficiency for 24 VDC Input units measured at 12 VDC.
Efficiency for 48 VDC Input units measured at 24 VDC.



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

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Start Voltage 24 Vin	9			VDC
48 Vin	18			
Switching Frequency		330		kHz
Input Filter	LC Filter			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy			±1.0	%
Output Voltage Balance Dual Output, Balanced Loads			±2.0	%
Load Regulation Min. Load to Full Load				%
Single 3.3V & 5V			±0.5	
12V & 15V			±0.2	
Dual ±12V & ±15V			±1.0	
Line Regulation Output Vin=Min. to Max.			±0.2 ±0.5	%
Single Dual Output				
Ripple & Noise (20MHz) 3.3V & 5V Output Models 12V & 15V Output Models ±12V, ±15V Output Models		75 100 100		mV P-P
Over Power Protection		150		%
Transient Recovery Time 25% Load Step Change		300		µs
Temperature Coefficient			±0.02	% / °C
Short Circuit Protection	Hiccup Automatic Recovery			
Remote On Off	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 = 0V			-0.5	mA
Control Common	Referenced to Negative Input			
Standby Input Current Supply Off & Nominal Vin		10		mA
Output Voltage Trim	Min	Typ	Max	Units
Trim Up / Trim Down % of nominal output voltage	±10			%

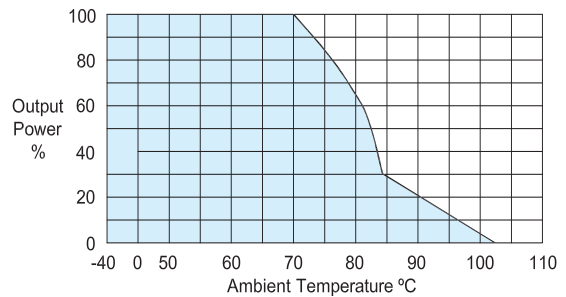
Input Fuse Selection Table	
24V Input	5000 mA Slow-Blow
48V Input	2500 mA Slow-Blow

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.

General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V			1500	pF
Operating Temperature (Ambient)	-40		+70	°C
Operating Temperature (Case)	-40		+105	°C
Storage Temperature	-50		+125	°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	346			K Hours
Cooling	Free-Air Convection			
Case Size	1.0 x 1.0x 0.4 inches 25.4 x 25.4 x 10.16 mm			
Case Material	Six-Sided shielded, Metal Case (UL-94V-0)			
Weight	15g			

Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
- Ripple & Noise measurement bandwidth is 20MHz, measured with a 1µF M/C and a 10µF T/C.
- Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
- 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.
- See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html.
- Specifications subject to change without notice.
- See ConTech website www.ConTech-us.com/pdf/rohs.pdf for RoHS Statement.

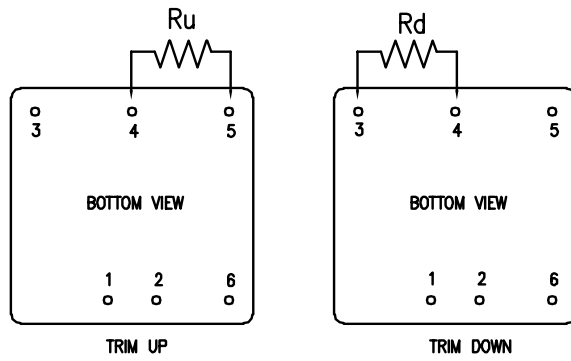


Natural Convection
Derating Curve

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



Trimming



External Output Trimming
Output can be externally trimmed as shown.

Block Diagrams

