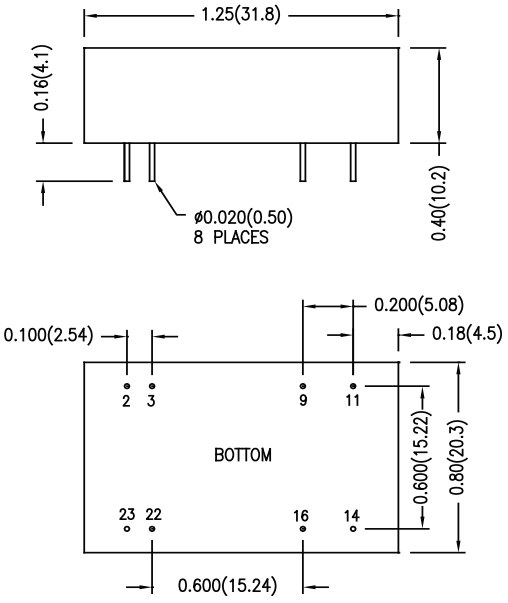
CONTECH
Division of Calex Mfg.

5-6 Watt DMR
Single and Dual Series

RoHS Compliant

- Efficiency up to 86%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 4:1 Input Range
- CSA60950 Approved
- RoHS Compliant

Model Number	Voltage			Current				Reflected Ripple	Input Overvoltage (1000ms)	Efficiency	Capacitive Load
	Input		Output	Input		Output					
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)	Typ (mA)	Max (VDC)	@ Max Load (%, Typ)	Max (Dual each output)
DMR4H24S3R3	24	9-36	3.3	20	212	120	1200	10	50	78	3000 µF
DMR5H24S5	24	9-36	5	20	257	100	1000	10	50	81	3000 µF
DMR6H24S12	24	9-36	12	20	291	50	500	10	50	86	3000 µF
DMR6H24S15	24	9-36	15	20	294	40	400	10	50	85	3000 µF
DMR5H24D5	24	9-36	±5	20	257	±50	±500	10	50	81	680 µF
DMR6H24D12	24	9-36	±12	20	291	±25	±250	10	50	86	680 µF
DMR6H24D15	24	9-36	±15	20	294	±20	±200	10	50	85	680 µF
DMR4H48S3R3	48	18-75	3.3	10	106	120	1200	10	100	78	3000 µF
DMR5H48S5	48	18-75	5	10	129	100	1000	10	100	81	3000 µF
DMR6H48S12	48	18-75	12	10	145	50	500	10	100	86	3000 µF
DMR6H48S15	48	18-75	15	10	147	40	400	10	100	85	3000 µF
DMR5H48D5	48	18-75	±5	10	123	±50	±500	10	100	81	680 µF
DMR6H48D12	48	18-75	±12	10	145	±25	±250	10	100	86	680 µF
DMR6H48D15	48	18-75	±15	10	147	±20	±200	10	100	85	680 µF



Pin Connections (NC) Not Connected		
Pin	**Single**	**Dual**
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Dimensions are inches (mm) unless noted

Tolerance:	Inches	Millimeters
	X.XX ±0.01	X.X ±0.25
	X.XXX ±0.005	X.XX ±0.13
Pin	±0.002	±0.05

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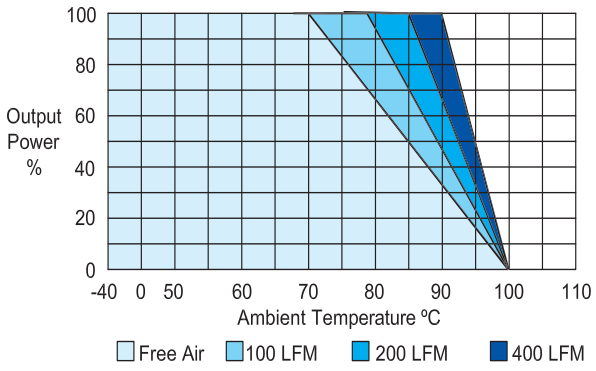
See Model Selection Table for Model Specific Parameters

Input Parameters		Min	Typ	Max	Units
Reverse Polarity Input Current				0.5	A
Short Circuit Input Power				2500	mW
Start Voltage	24 Vin 48 Vin	7 14	8 16	9 18	VDC
Under Voltage Shutdown	24 Vin 48 Vin			8.5 16	VDC
Switching Frequency			340		kHz
Input Filter		Pi Filter			
Conducted EMI		Meets EN55022, Class A and FCC Part 15, Class A			
Output Parameters		**Min**	**Typ**	**Max**	**Units**
Output Voltage Accuracy			±0.5	±1.0	%
Output Voltage Balance Dual Output, Balanced Loads			±0.5	±2.0	%
Load Regulation Io = 10% to 100%			±0.3	±1.0	%
Line Regulation Vin=Min. to Max.			±0.2	±0.5	%
Ripple & Noise (20MHz)			50	75	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp				100	mV P-P
Ripple & Noise (20 MHz)				15	mV RMS
Over Power Protection		110	250	350	%
Transient Recovery Time 25% Load Step Change			250	500	µs
Transient Response Deviation, 25% Load Step Change			±3		%
Temperature Coefficient			±0.01	±0.02	% / ºC
Short Circuit Protection		Continuous			
General Specifications		**Min**	**Typ**	**Max**	**Units**
Isolation Voltage, 60 seconds		1500			VDC
Isolation Resistance 500VDC		1000			Mohms
Isolation Capacitance, 100kHz, 1V			350	550	pF
Operating Temperature (Ambient)		-25		+71	ºC
Case Temperature				+90	ºC
Storage Temperature		-25		+125	ºC
Humidity				95	%
MTBF MIL-HDBK-217F @25ºC, Ground Benign		1000			K Hours
Cooling		Free-Air Convection			
Case Size		1.25 x 0.80 x 0.40 inches 31.8 x 20.3 x10.2 mm			
Case Material		Metal with Non-Conductive Baseplate (UL94V-0)			
Weight		17.3g			
Agency Approval		CSA60950 Approved			

Notes:

1. Specifications typical at Ta=+25ºC, 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. When measuring peak-to-peak output noise, use a Cout 0.47µF ceramic capacitor. Scope measurement should be made by using a BNC socket, measurement bandwidth is 0-20MHz. Position the load between 2" and 2.5" from the converter.
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

To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90ºC.

Input Fuse Selection Table	
24V Input	1500 mA Slow-Blow
48V Input	750 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.

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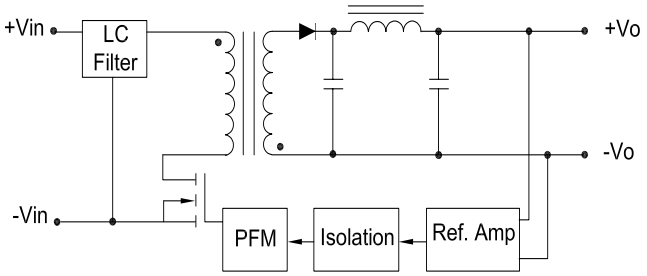
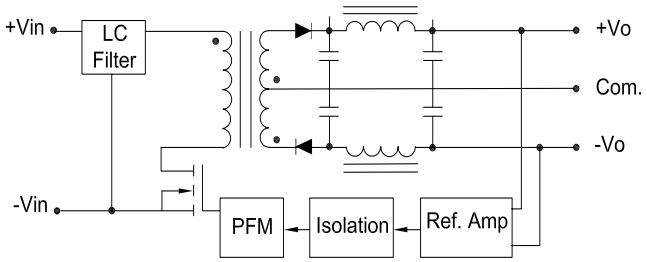
Block Diagrams



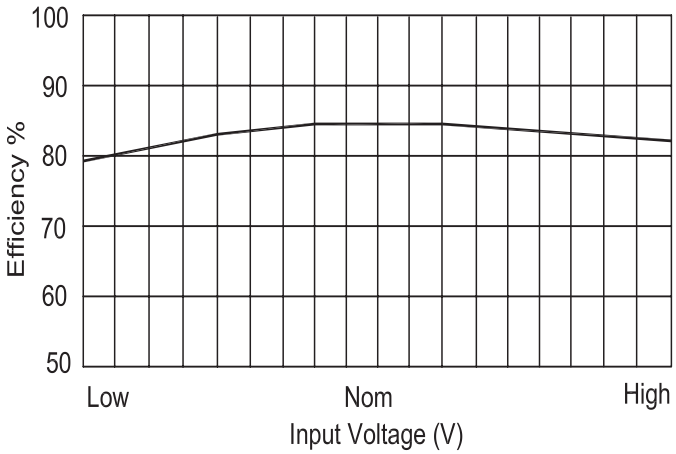
Single Output Block Diagram



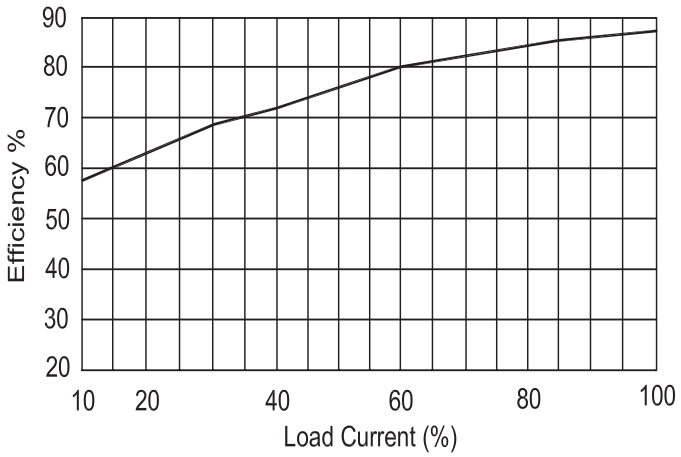
Dual Output Block Diagram

Efficiency Curves

Single Output

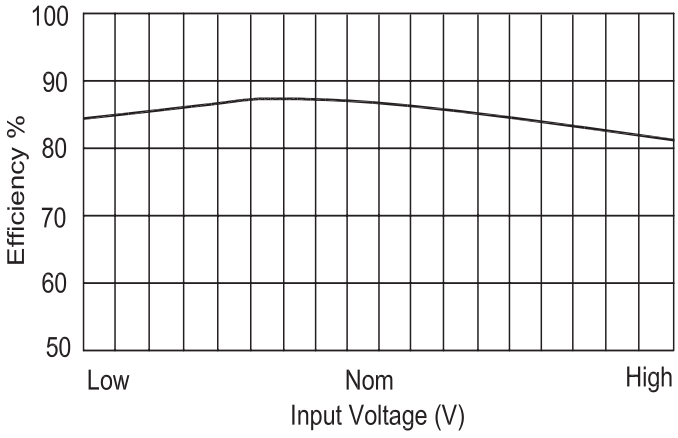


Efficiency vs Input Voltage

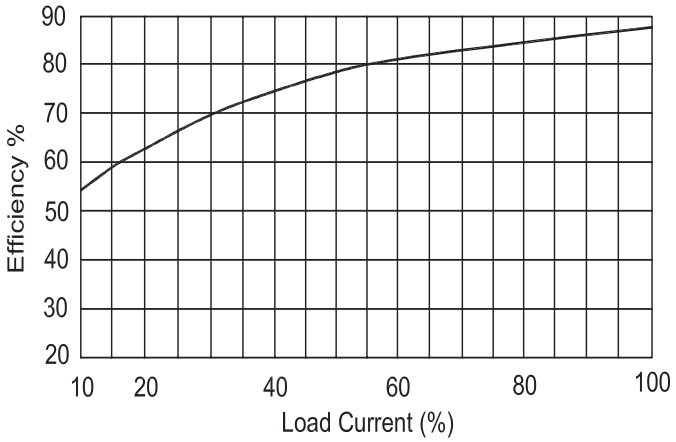


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load

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