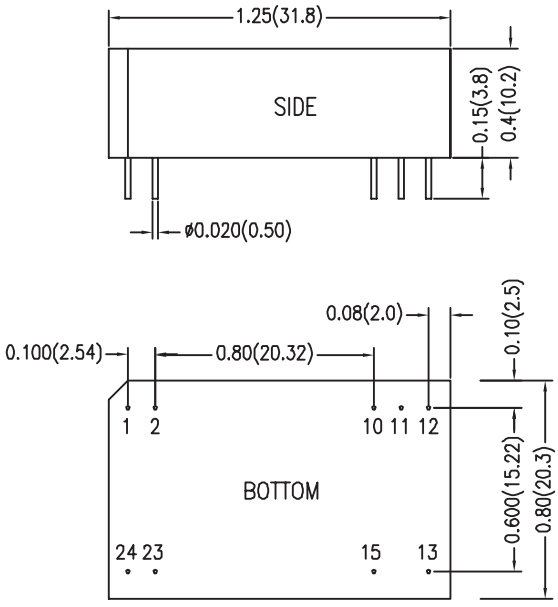
CONTECH
Division of Calex Mfg.

2 Watt DPT
Single and Dual Series

RoHS Compliant

- 6000VDC Isolation
- MTBF > 600,000 Hours
- Regulated Outputs
- Low Isolation Capacitance
- Low Leakage Current
- Short Circuit Protection
- 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)
DPT2R5S5	5	4.5-5.5	5	100	645	0	400	15	7.5	62	680 µF
DPT2R5S12	5	4.5-5.5	12	100	629	0	165	15	7.5	63	680 µF
DPT2R5S15	5	4.5-5.5	15	100	623	0	133	15	7.5	64	680 µF
DPT2R5D5	5	4.5-5.5	±5	100	476	0	±100	15	7.5	42	270 µF
DPT2R5D12	5	4.5-5.5	±12	100	699	0	±83	15	7.5	57	270 µF
DPT2R5D15	5	4.5-5.5	±15	100	695	0	±66	15	7.5	57	270 µF
DPT2R12S5	12	10.8-13.2	5	50	269	0	400	8	15	62	680 µF
DPT2R12S12	12	10.8-13.2	12	50	262	0	165	8	15	63	680 µF
DPT2R12S15	12	10.8-13.2	15	50	260	0	133	8	15	64	680 µF
DPT2R12D5	12	10.8-13.2	±5	50	185	0	±100	8	15	45	270 µF
DPT2R12D12	12	10.8-13.2	±12	50	281	0	±83	8	15	59	270 µF
DPT2R12D15	12	10.8-13.2	±15	50	280	0	±66	8	15	59	270 µF
DPT2R24S5	24	21.6-26.4	5	30	134	0	400	3	30	62	680 µF
DPT2R24S12	24	21.6-26.4	12	30	131	0	165	3	30	63	680 µF
DPT2R24S15	24	21.6-26.4	15	30	130	0	133	3	30	64	680 µF
DPT2R24D5	24	21.6-26.4	±5	30	93	0	±100	3	30	45	270 µF
DPT2R24D12	24	21.6-26.4	±12	30	143	0	±83	3	30	58	270 µF
DPT2R24D15	24	21.6-26.4	±15	30	142	0	±66	3	30	58	270 µF



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

Pin Connections
(NC) Not Connected

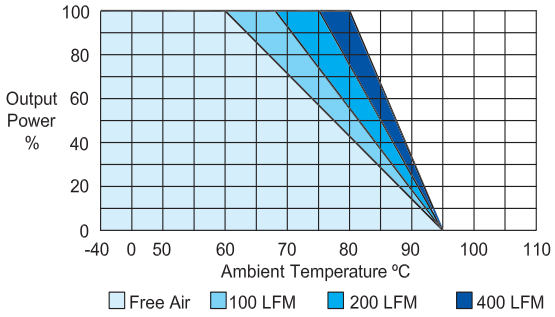
Pin	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	No Pin	Common
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

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			2000	mW
Switching Frequency	25		80	kHz
Input Filter	Pi Filter			
Conducted EMI	Meets EN55022, Class A			
Output Parameters	**Min**	**Typ**	**Max**	**Units**
Output Voltage Accuracy		±2.0	±4.0	%
Output Voltage Balance Dual Output, Balanced Loads		±2.0	±4.0	%
Load Regulation Io = 10% to 100%		±0.5	±1.0	%
Line Regulation Vin=Min. to Max.		±0.3	±0.5	%
Ripple & Noise (20MHz)		30	50	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp			100	mV P-P
Ripple & Noise (20 MHz)			15	mV RMS
Temperature Coefficient		±0.01	±0.02	% / ºC
Short Circuit Protection	Continuous			
General Specifications	**Min**	**Typ**	**Max**	**Units**
Isolation Voltage, 60 seconds	6000			VDC
Isolation Resistance 500VDC	10			Gohms
Isolation Capacitance, 100kHz, 1V		20	30	pF
Leakage Current 240VAC, 60 Hz			2	µA
Operating Temperature (Ambient)	-25		+60	ºC
Operating Temperature (Case)	-25		+90	ºC
Storage Temperature	-40		+125	ºC
Humidity			95	%
MTBF MIL-HDBK-217F @25ºC, Ground Benign	600			K Hours
Cooling	Free-Air Convection			
Case Size	1.25 x 0.80 x 0.40 inches 31.8 x 20.3 x 10.2 mm			
Case Material	Non Conductive Black Plastic (UL94V-0)			
Weight	12.4g			

Notes:

1. Specifications typical at Ta=+25ºC, resistive load, nominal input voltage, full rated output current unless otherwise noted.
2. 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.
3. 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.
4. When measuring peak-to-peak output noise, use a Cout 0.33µF 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.
5. 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.
6. See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html
7. Specifications subject to change without notice.
8. See ConTech website www.ConTech-us.com/pdf/rohs.pdf for RoHS Statement.



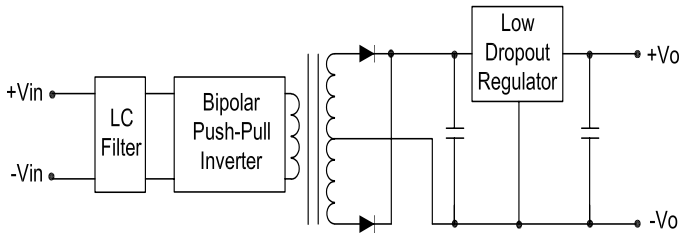
Derating Curve

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

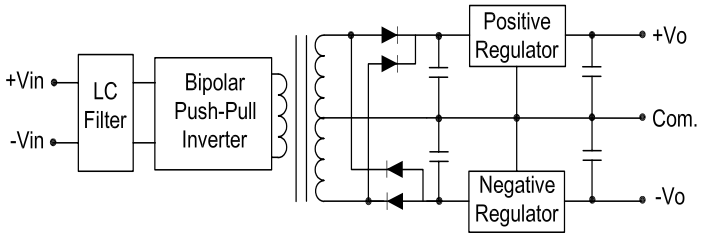
Input Fuse Selection Table	
5V Models	1000 mA Slow-Blow
5V Models	500 mA Slow-Blow
5V Models	250 mA Slow-Blow

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.

Block Diagrams



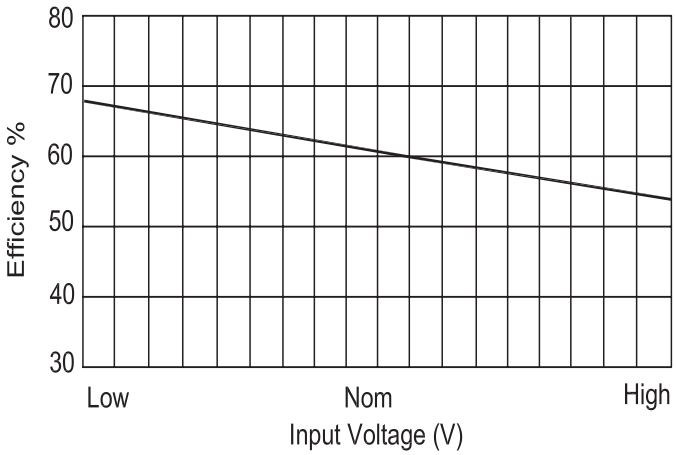
Single Output Block Diagram



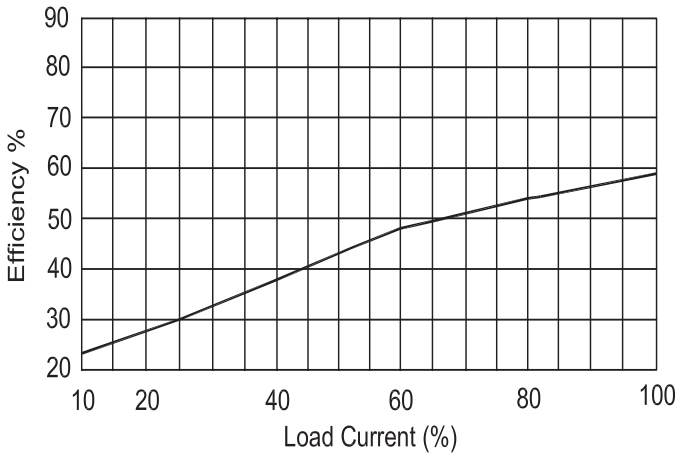
Dual Output Block Diagram

Efficiency Curves

Single Output

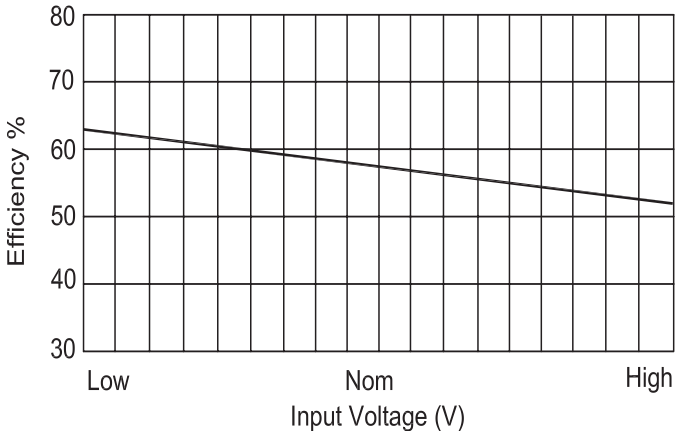


Efficiency vs Input Voltage

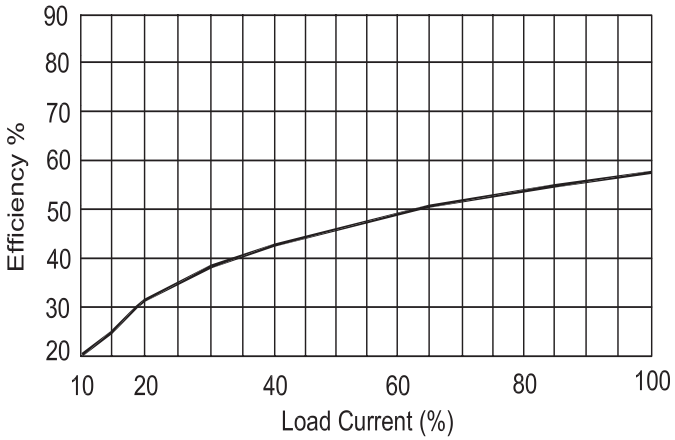


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load