

1.8 Watt Dual Series DC/DC Converters

Features

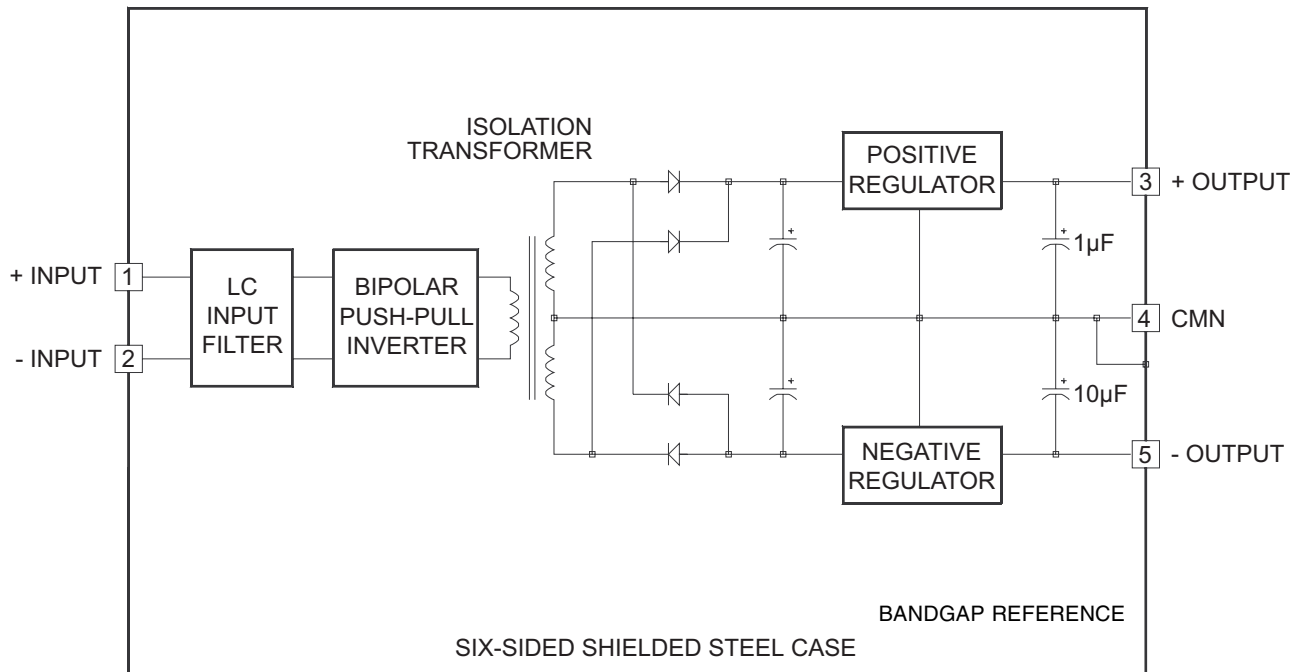
- Low Profile Case (0.375" High)
- Low Noise Operation
- "LC" Section Input Filter to Reduce Reflected Ripple
- Wide Input Voltage Range
- High Isolation Breakdown Voltage (500 VDC Minimum)
- Long Term Output Fault Survival
- 100% Burn-In, 100% Tested
- 5 Year Warranty

Description

These 1.8 Watt Dual DC/DC Converters are designed for high performance Industrial data acquisition systems and board level products. The converter consists of a rugged bipolar switching stage, isolation transformer, and high regulation linear post regulator for low noise/highly stable DC outputs.

Selection Chart				
Model	Input Range VDC		Outputs VDC	Outputs mA
	MIN	MAX		
5D12.075	4.60	5.50	±12.0	±75
5D15.060	4.60	5.50	±15.0	±60
12D12.075	10.80	13.80	±12.0	±75
12D15.060	10.80	13.80	±15.0	±60

1.8 Watt Dual Series Block Diagram



1.8 Watt Dual Series DC/DC Converters

Input Parameters*					
Model		5D12.075	5D15.060	12D12.075	12D15.060
Voltage Range	MIN	4.60		10.80	
	MAX	5.50		13.80	
Reflected Ripple, 0-20MHz bw	TYP	100		80	
	MAX	200		150	
Input Current Full Load	TYP	650		265	
	No Load	130		45	
Efficiency	TYP	55		57	
Switching Frequency	TYP	55		55	
Maximum Input Overvoltage, 100ms No Damage	MAX	6.2		14.5	
Turn-on Time, 1% Output Error (2)	TYP	4		4	
Recommended Fuse		Slow Blow Type (3)			

Output Parameters*					
Model		5D12.075	12D12.075	5D15.060	12D15.060
Output Voltage		±12		±15	
Rated Load (4)	MIN	0		0	
	MAX	±75		±60	
Voltage Range 100% Load	MIN	11.88		14.85	
	TYP	12.00		15.00	
	MAX	12.12		15.15	
Output Balance (Plus to Minus Output, Full Load)	MAX	1.0			
Load Regulation 0-100% Load	TYP	0.1			
	MAX	0.2			
Line Regulation Vin = Min-Max VDC	TYP	0.1			
	MAX	0.2			
Short Term Stability (5)	TYP	0.1			
Long Term Stability	TYP	0.4			
Transient Response (6)	TYP	100			
Dynamic Response (7)	TYP	15			
Input Ripple Rejection (7)	TYP	60			
Noise, 0-20MHz bw	TYP	15			
	MAX	30			
Temperature Coefficient	TYP	150			
	MAX	300			
Short Circuit Protection to Common for all Outputs		Short Term, 1 Minute Maximum			

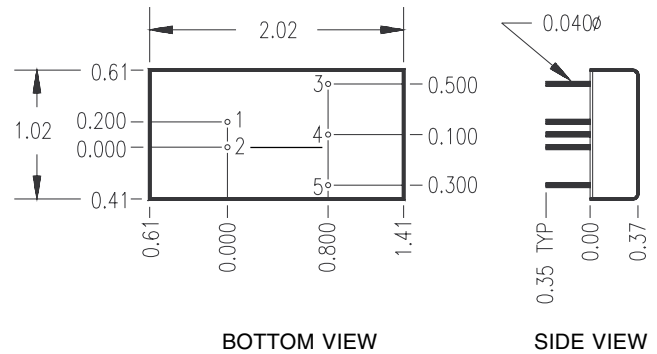
NOTES:

* All parameters measured at Tc= 25° C, nominal input voltage and full rated load unless otherwise noted. Refer to the CALEX Application Notes for the definition of terms, measurement circuits and other information.

- (2) Turn on time is defined as the time from the application of power until the output is within 1% of its final value.
- (3) Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load (or use the supplied curves) and then adding 20 to 25% to get the desired fuse size.
- (4) No minimum load required.
- (5) Short term stability is specified after a 30 minute warm-up at full load and with constant line, load and ambient conditions.
- (6) The transient response is specified as the time required for the output to settle from a 100% step load change (rise time of step = 2μ Sec) to a 1% error band.
- (7) Dynamic response is the peak overshoot voltage during the transient response as defined in note 6 above.
- (8) The functional temperature range is intended to give an additional data point for use in evaluating this power supply. At the low functional temperature the power supply will function with no side effects, however sustained operation at the high functional temperature will reduce expected operational life. The data sheet specifications are not guaranteed over the functional temperature range.
- (9) The case thermal impedance is specified as the case temperature rise over ambient per package watt dissipated.
- (10) Water Washability - Calex 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.

1.8 Watt Dual Series DC/DC Converters

General Specifications *			
All Models			Units
Isolation			
Isolation Voltage	MIN	500	VDC
10 μ A Leakage Input-Output			
Input to Output Capacitance	TYP	30	pF
Environmental			
Case Operating Range	MIN	-25	°C
No Derating	MAX	80	
Case Functional Range (8)	MIN	-30	°C
	MAX	90	
Storage Range	MIN	-55	°C
	MAX	100	
Thermal Impedance (9)	TYP	16.5	°C/Watt
General			
Unit Weight	TYP	0.9	oz
Mounting Kits		MS6 & MS15	



Mechanical tolerances unless otherwise noted:

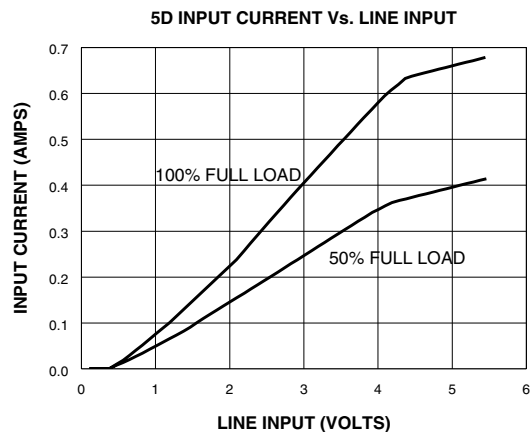
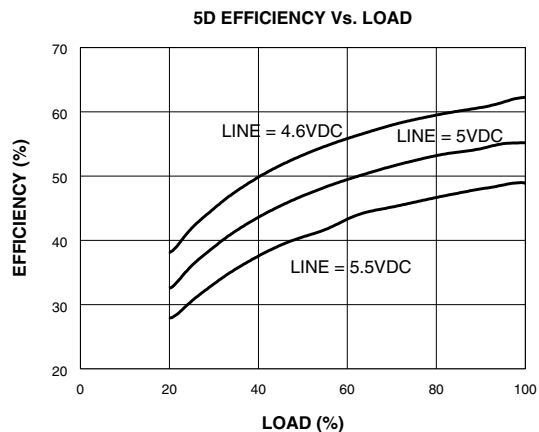
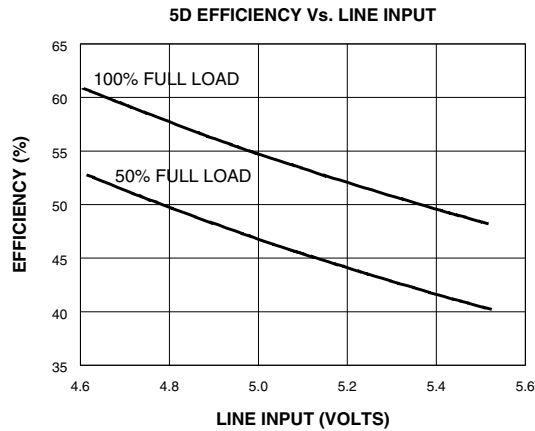
X.XX dimensions: ± 0.020 inches

X.XXX dimensions: ± 0.005 inches

Seal around terminals is not hermetic. Do not immerse units in any liquid.

Pin	Function
1	+INPUT
2	-INPUT
3	+OUTPUT
4	CMN
5	-OUTPUT

Typical Performance ($T_c=25^\circ\text{C}$; Full Rated Load).



1.8 Watt Dual Series DC/DC Converters

Typical Performance ($T_c=25^\circ\text{C}$; Full Rated Load).

