

CALEX MANUFACTURING CO 52E D 1811250 0001126 51T CEX  
**3 & 4.5 Watt Dual Output, 5 Volt Input DC/DC Converters**

3355 Vincent Road, Pleasant Hill, CA 94523-4389 800-542-3355 Telephone (415)932-3911 FAX: (415)932-6017



**FEATURES**

T-57-11

- Low Profile Copper Case (0.375" High)
- Six-Sided Shielded Case
- Low Input/Output Noise Operation
- Short Circuit Protected Output
- Fixed Frequency Operation Independent of Line and Load
- Highly Regulated/Low Drift Output
- 5 Year Warranty

**SELECTION CHART**

MODEL	INPUT RANGE VDC		OUTPUTS VDC	OUTPUTS mA	CASE
	MIN	MAX			
5D12.125	4.50	5.50	±12	±125	D
5D15.100	4.50	5.50	±15	±100	D
5D12.185	4.75	5.25	±12	±185	D
5D15.150	4.75	5.25	±15	±150	D

**DESCRIPTION**

The versatile 3 & 4.5 Watt Dual Output converters are particularly suitable for use in microprocessor systems where 5 Volts is the primary power source and plus and minus output voltages are required.

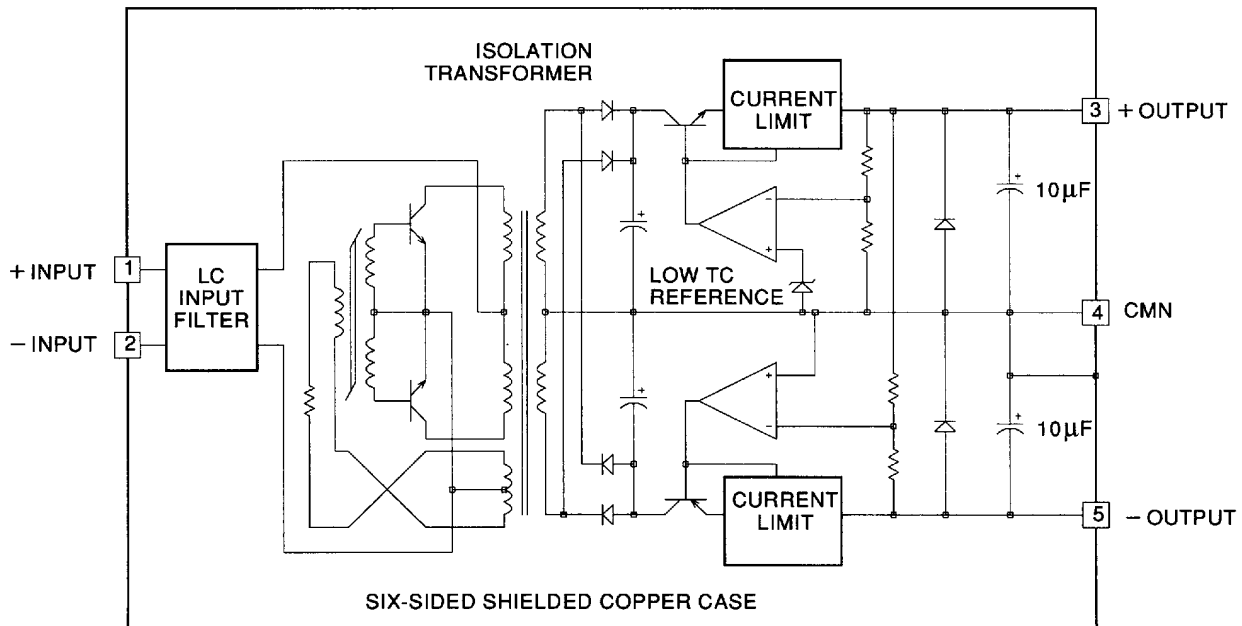
These converters provide the user with either ±15 VDC or ±12 VDC power from a 5 VDC source. This conversion uses state-of-the-art components and technology for optimum performance and reliability in computer data acquisition systems and board level products..

The 4.5 Watt DC/DC Converters are specifically designed for high power computer data acquisition systems and board level products.

Each converter in this series consists of a rugged bipolar switching stage, an isolation transformer and an LC type input filter. The built-in linear post regulator provides excellent line and load regulation.

The CALEX 5 Year Warranty is provided for all units in this series.

**3 & 4.5 WATT DUAL SERIES BLOCK DIAGRAM**





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INPUT PARAMETERS (1)						
MODEL		5D12.125	5D15.100	5D12.185	5D15.150	UNITS
Voltage Range	MIN	4.50		4.75		VDC
	MAX	5.50		5.25		
Reflected Ripple, 0-20MHz BW	TYP	20		20		mA p-p
	MAX	60		60		
Input Current Full Load	TYP	960		1450		mA
	TYP	200		200		
Efficiency	TYP	43		62		%
Switching Frequency	TYP	25				kHz
Maximum Input Over Voltage, 100mS No Damage	MAX	6.2				VDC
Turn-on Time, 1% Output Error	TYP	2				mSec
Recommended Fuse		Slow Blow Type (2)				

OUTPUT PARAMETERS (1)						
MODEL		5D12.125	5D15.100	5D12.185	5D15.150	UNITS
Output Voltage		±12	±15	±12	±15	VDC
Rated Current (3)	MIN	0	0	0	0	mA
	MAX	±125	±100	±185	±150	
Voltage Range 100% Load	MIN	11.940	14.925	11.940	14.925	VDC
	TYP	12.000	15.000	12.000	15.000	
	MAX	12.060	15.075	12.060	15.075	
Output Balance (Plus to Minus Output, Full Load)	TYP	0.6				%
	MAX	1.0				
Load Regulation 0-100% Load	TYP	0.01		0.02		%
	MAX	0.07		0.07		
Line Regulation Vin = Min-Max VDC	TYP	0.01		0.02		%
	MAX	0.07		0.07		
Short Term Stability (4)	TYP	0.07		0.07		%
Long Term Stability	TYP	0.2		0.2		%/kHrs
Transient Response (5)	TYP	5		10		µSec
Dynamic Response (6)	TYP	5		6		mV peak
Noise, 0-20MHz BW	TYP	10		10		mV p-p
	MAX	40		40		
Temperature Coefficient	TYP	75	50	75	50	ppm/°C
	MAX	200	150	200	150	
Short Circuit Protection to Common for all Outputs		Continuous, 8 Hours Minimum				

## NOTES:

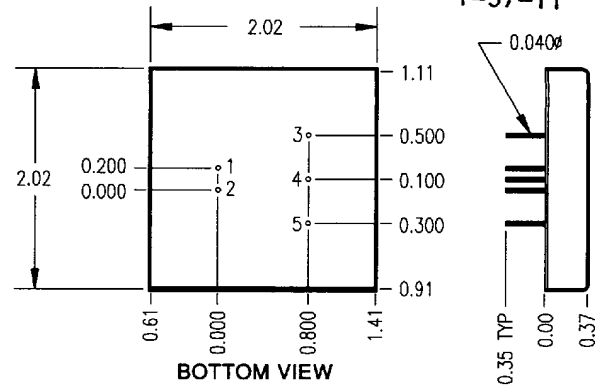
- (1) All parameters measured at 25° C, nominal voltage and full rated load unless otherwise noted. Refer to the CALEX Application Notes for the definition of terms, measurement circuits and other information.
- (2) Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load then adding 20 to 25 percent.
- (3) No minimum Load required.
- (4) Short term stability is specified after a 30 minute warm-up at full load, and with constant line, load and ambient conditions.
- (5) The transient response is specified as the time required to settle from 100% step load change (rise time of step = 2µSec.) to a 1% error band.
- (6) Dynamic response is the peak overshoot voltage during the transient response time defined in note 5 above.
- (7) 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.
- (8) The case thermal impedance is specified as the case temperature rise over ambient per package watt dissipated.

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GENERAL SPECIFICATIONS			
MODEL		ALL MODELS	UNITS
<b>ISOLATION</b>			
Isolation Voltage	MIN	500	VDC
Input-Output 10µA Leakage			
Input to Output Capacitance	TYP	75	pF
<b>ENVIRONMENTAL</b>			
Case Operating Range, No Derating	MIN MAX	-25 80	°C
Case Functional Range (7)	MIN MAX	-30 85	°C
Storage Range	MIN MAX	-55 100	°C
Thermal Impedance (8)	TYP	10	°C/Watt
Unit Weight	TYP	1.7	oz
Case		D	
Mounting Kits		MS15 & MS6	



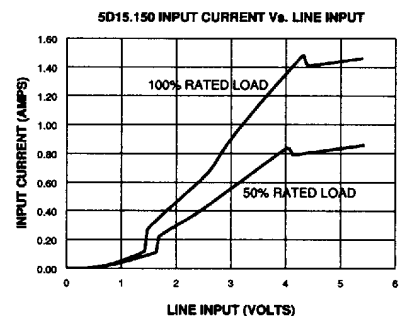
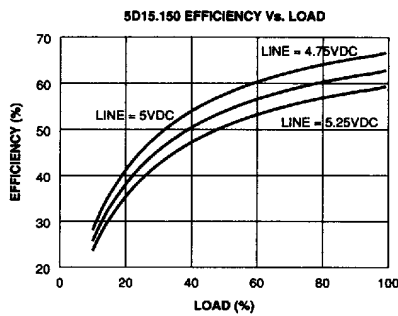
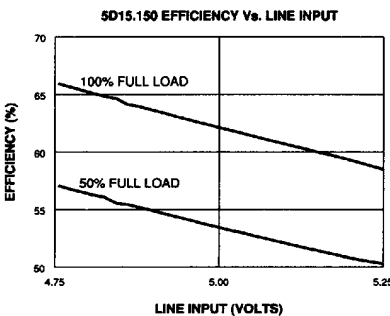
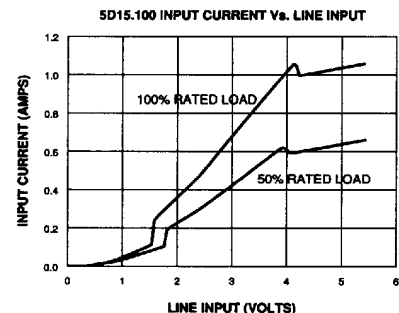
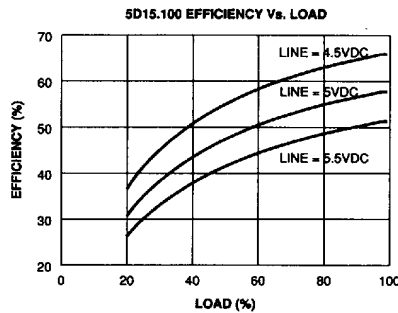
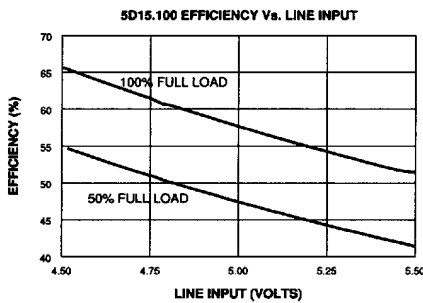
Mechanical tolerances unless otherwise noted:

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





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Typical Performance (Tc=25°C; Full-Rated Load).

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