3 Watt Dual Output DC/DC Converters

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

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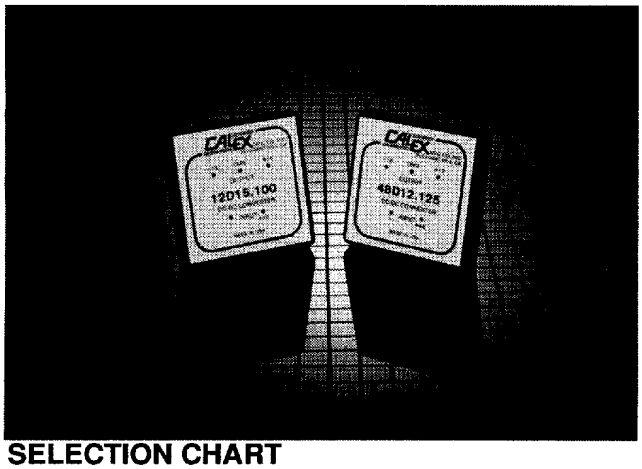


FEATURES

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

SELECTION CHART

MODEL	INPUT RANGE VDC		OUTPUTS VDC	OUTPUTS mA	CASE
	MIN	MAX			
12D12.125	10.56	15.60	±12	±125	D
12D15.100	10.56	15.60	±15	±100	D
24D12.125	21.12	31.20	±12	±125	D
24D15.100	21.12	31.20	±15	±100	D
28D12.125	24.64	36.40	±12	±125	D
28D15.100	24.64	36.40	±15	±100	D
48D12.125	42.24	62.40	±12	±125	D
48D15.100	42.24	62.40	±15	±100	D

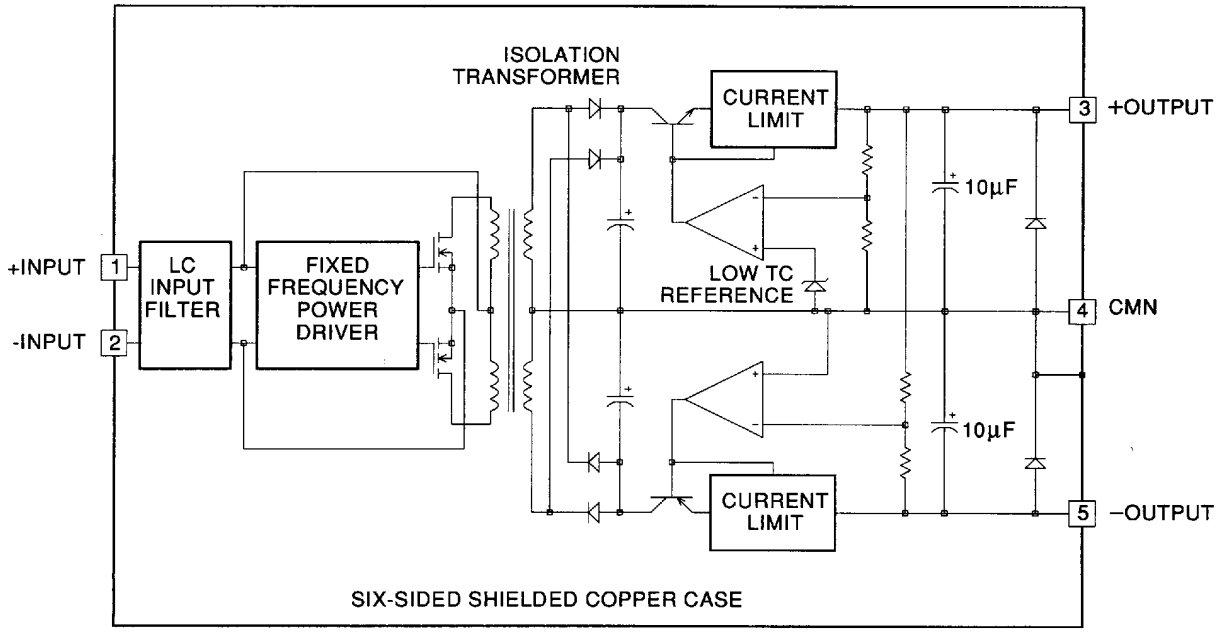
DESCRIPTION

The CALEX 3 Watt Dual Output converters are perfect for a variety of industrial applications and direct PCB mounting.

These converters are designed for low input/output noise operation and have a short circuit protected post regulator for outstanding line and load regulation. They have a built-in LC input filter.

An isolation transformer provides 500 VDC isolation between input and output allowing the outputs to be floated above or below ground. Each 3 Watt Dual Converter is housed in a low profile, six-sided copper case to minimize radiated noise. Our CALEX 5 Year Warranty covers each unit in this series.

3 WATT DUAL SERIES BLOCK DIAGRAM



3 Watt Dual Output DC/DC Converters

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INPUT PARAMETERS (1)										
MODEL		12D12.125	12D15.100	24D12.125	24D15.100	28D12.125	28D15.100	48D12.125	48D15.100	UNITS
Voltage Range	MIN MAX	10.56 15.60		21.12 31.20		24.64 36.40		42.24 62.40		VDC
Reflected Ripple 0-20MHz BW	TYP MAX	10 25		5 15		5 15		10 25		mA p-p
Input Current Full Load No Load	TYP TYP	402 55	381 52	202 27	197 27	175 26	169 28	105 19	101 19	mA
Efficiency	TYP	63	65	62	63	61	63	60	62	%
Switching Frequency	TYP	85								kHz
Maximum Input Over Voltage, 100mS No Damage	MAX	18.7		37.4		43.0		68.0		VDC
Turn-on Time 1% Output Error (2)	TYP	1								mSec
Recommended Fuse		Slow Blow Type (3)								

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OUTPUT PARAMETERS (1)				
MODEL		12D12.125 24D12.125 28D12.125 48D12.125	12D15.100 24D15.100 28D15.100 48D15.100	UNITS
Output Voltage		±12	±15	VDC
Rated Current (4)	MIN MAX	0 ±125	0 ±100	mA
Voltage Range 100% Load	MIN TYP MAX	11.90 12.00 12.10	14.90 15.00 15.10	VDC
Output Balance (Plus to Minus Output, Full Load)	TYP MAX	0.6 1.0	0.6 1.0	%
Load Regulation 0-100% Load	TYP MAX	0.02 0.10	0.02 0.10	%
Line Regulation Vin = Min-Max VDC	TYP MAX	0.02 0.10	0.02 0.10	%
Short Term Stability (5)	TYP	0.1	0.1	%
Long Term Stability	TYP	0.2	0.2	%/kHrs
Transient Response (6)	TYP	5	5	µSec
Dynamic Response (7)	TYP	5	5	mV peak
Input Ripple Rejection (8)	TYP	60	60	dB
Noise, 0-20MHz BW	TYP MAX	10 40	10 40	mV p-p
Temperature Coefficient	TYP MAX	75 250	50 150	ppm/°C
Short Circuit Protection to Common for all Outputs		Continuous, 8 Hours Minimum Current Limit		

Notes:

(1) All parameters measured at 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 and then adding 20 to 25 percent.

(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 = 2 µSec.) to a 1% error band.

(7) Dynamic response is the peak overshoot voltage during the transient response time as defined in note 6 above.

(8) The input ripple rejection is specified for DC to 120Hz ripple with a modulation amplitude of 1% Vin.

(9) 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.

(10) The case thermal impedance is specified as the case temperature rise over ambient per package watt dissipated.

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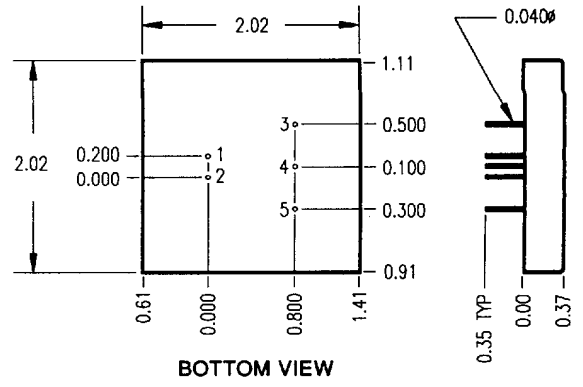
GENERAL SPECIFICATIONS (1)			
MODEL		**ALL MODELS**	**UNITS**
ISOLATION			
Isolation Voltage Input-Output 10µA Leakage	MIN	500	VDC
Input to Output Capacitance	TYP	75	pF
ENVIRONMENTAL			
Case Operating Range, No Derating	MIN MAX	-25 80	°C
Case Functional Range (9)	MIN MAX	-40 85	°C
Storage Range	MIN MAX	-25 100	°C
Thermal Impedance (10)	TYP	10	°C/Watt
Unit Weight	TYP	1.7	oz
Case		D	
Mounting Kits		MS6 & MS15	



BOTTOM VIEW

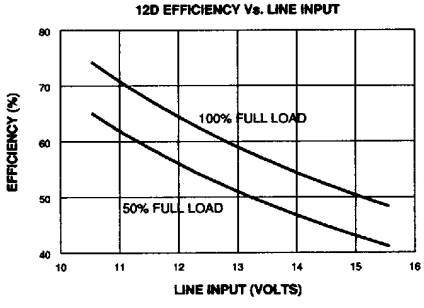
Mechanical tolerances unless otherwise noted:

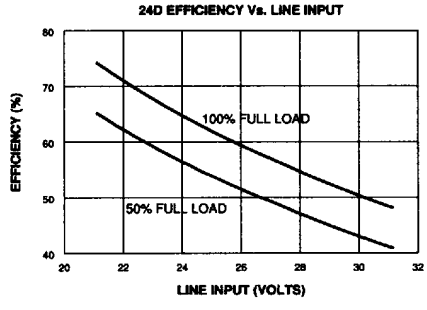
X.XX dimensions: ±0.020 inches

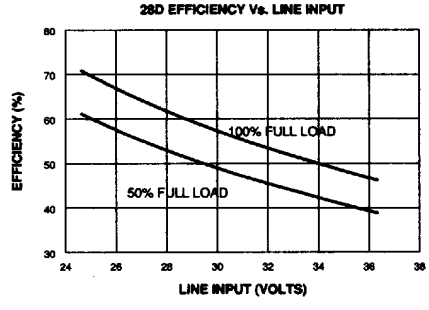
X.XXX dimensions: ±0.005 inches

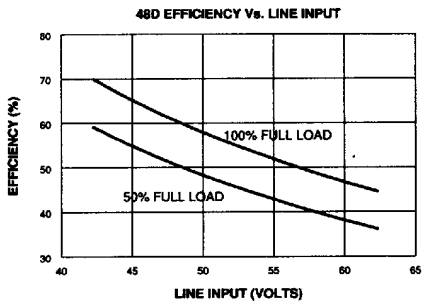
Seal around terminals is not hermetic. Do not immerse units in any liquid.

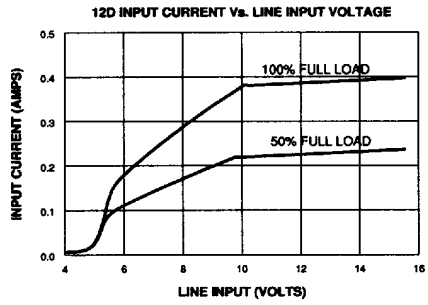
PIN	FUNCTION
1	+INPUT
2	-INPUT
3	+OUTPUT
4	CMN
5	-OUTPUT

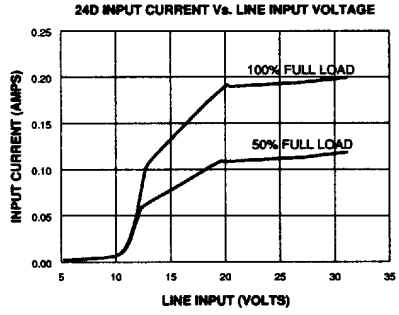












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Typical Performance (Tc=25°C; Full Rated Load).