6 Watt Dual Series DC/DC Converters

Features

- Low Profile Copper Case (0.375” High)
- Six-Sided Shielded Case
- Low Input/Output Noise Operation
- 700 VDC Input/Output Isolation
- Short Circuit Protected Output
- Fixed Frequency Operation Independant of Line and Load
- Highly Regulated/Low Drift Output
- Rugged High Speed MOSFET Power Chopper
- 5 Year Warranty
- RoHS and Non-RoHS Construction Available

Selection Chart				
Model	Input Range VDC		Outputs VDC	Outputs mA
	Min	Max		
12D12.250A	11.16	13.20	±12	±250
12D15.200A	11.16	13.20	±15	±200
24D12.250A	22.32	26.40	±12	±250
24D15.200A	22.32	26.40	±15	±200
28D12.250A	26.04	30.80	±12	±250
28D15.200A	26.04	30.80	±15	±200
48D12.250A	44.64	52.80	±12	±250
48D15.200A	44.64	52.80	±15	±200

*To order RoHS, add “(RoHS)” to the part number. i.e 28D12.250A (RoHS)

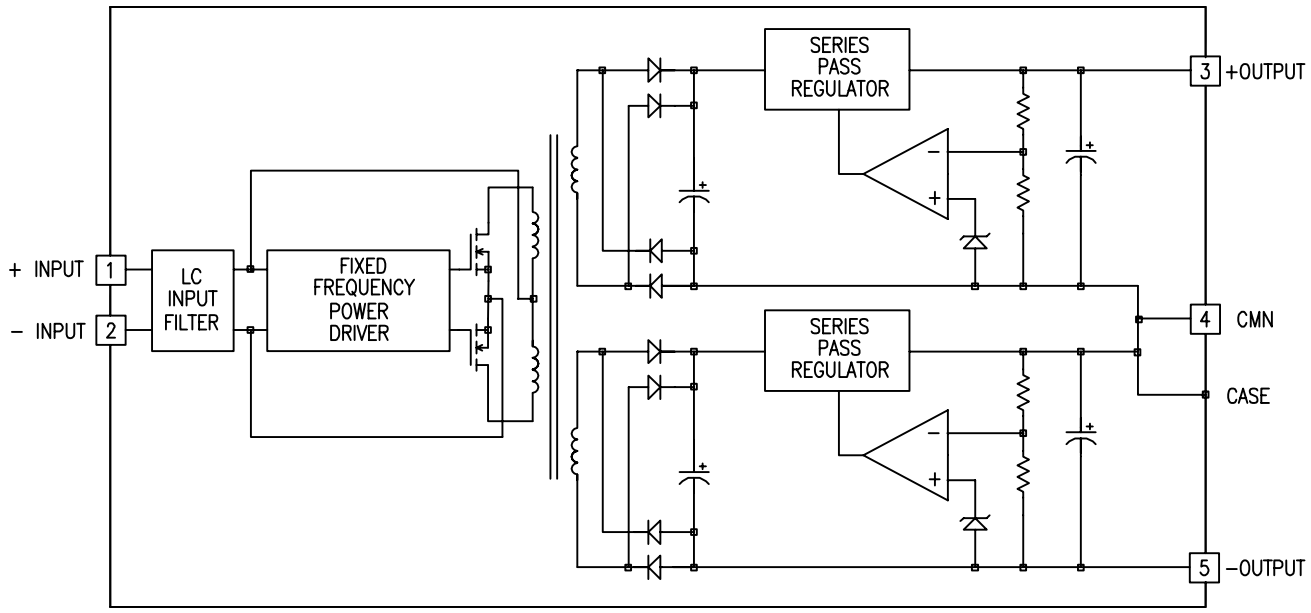
Description

Ideal for industrial applications, these 6 Watt Dual Output converters are suitable for use in telecommunications, medical and other systems that require floating outputs.

These DC/DC converters operate at a fixed frequency that is independent of line and load. The isolation transformer provides 700 VDC isolation between input and output grounds allowing the outputs to be floated above or below the input ground. Designed for maximum performance each unit has an LC input filter, high speed MOSFET power chopper and short circuit protected linear post regulators.

The copper case, measuring only 0.375” high, is shielded on all six sides to minimize radiated noise. All converters in this series are guaranteed under the CALEX 5 Year Warranty.

6 Watt Dual Output Series Block Diagram

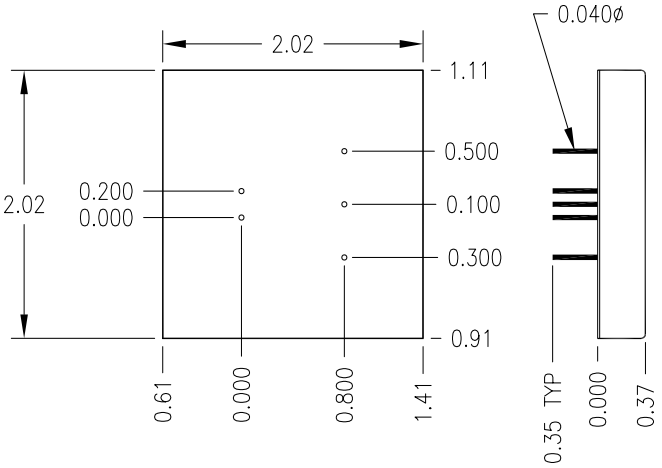


Input Parameters						
Model		**12D12.250A**	**12D15.200A**	**24D12.250A**	**24D15.200A**	**Units**
Voltage Range	MIN MAX	11.16 13.20		22.32 26.40		VDC
Reflected Ripple, 0-20 MHz low	TYP MAX	10 25		5 15		mA P-P
Input Current Full Load No Load	TYP TYP	780 45	769 50	378 22	362 23	mA
Efficiency	TYP	64	65	66	69	%
Switching Frequency	TYP	75				kHz
Maximum Input Overvoltage, 100 ms No damage	MAX	15		30		VDC
Turn-on Time, 1% Output Error (2)	TYP	3				ms
Recommended Fuse		(3)				
Model		**28D12.250A**	**28D15.200A**	**48D12.250A**	**48D15.200A**	**Units**
Voltage Range	MIN MAX	26.04 30.80		44.64 52.80		VDC
Reflected Ripple, 0-20 MHz low	TYP MAX	7 15		15 25		mA P-P
Input Current Full Load No Load	TYP TYP	325 22	315 22	198 21	189 21	mA
Efficiency	TYP	64	65	64	65	%
Switching Frequency	TYP	75				kHz
Maximum Input Overvoltage, 100 ms No damage	MAX	35		60		VDC
Turn-on Time, 1% Output Error (2)	TYP	3				ms
Recommended Fuse		(3)				

Output Parameters (1)				
Model		**12D12.250A 24D12.250A 28D12.250A 48D12.250A**	**12D15.200A 24D12.200A 28D15.200A 48D15.200A**	**Units**
Output Voltage		±12	±15	Vdc
Rated Current (4)	MIN MAX	0 ±250	0 ±200	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%	TYP MAX	0.02 0.10		%
Line Regulation Vin = Min-Max VDC	TYP MAX	0.050 0.10		%
Transient Response (6)	TYP	never exceeds 1%		µs
Dynamic Response (7)	TYP	10		mV peak
Input Ripple Rejection (8)	TYP	65		dB
Noise, 0-20MHz bw	TYP MAX	10 40		mV P-P
Temperature Coefficient	TYP MAX	100 250	150 300	ppm/ºC
Short Circuit Protection to Common for all Outputs		Continuous, 8 Hours Minimum Current Limit		

General Specifications			
All Models			**Units**
Isolation			
Isolation Voltage 10µA Leakage Input-Output	MIN	700	VDC
Input to Output Capacitance	TYP	75	pF
Environmental			
Case Operating Range No Derating	MIN MAX	-40 85	ºC
Storage Range	MIN MAX	-55 100	ºC
Thermal Impedance (9)	TYP	10	ºC/Watt
General			
Unit Weight	TYP	1.7	oz
Mounting Kits		MS6 & MS15	

(1) All parameters measured at T_C=25ºC, 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 120 Hz ripple with a modulation amplitude of 1% Vin.
(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.
(11) RoHS Compliance -
See Calex website www.calex.com/RoHS.html for the complete RoHS compliance statement.
The RoHS marking is as follows.



TOLERANCE: ALL DIMENSIONS ARE TYPICAL IN INCHES UNLESS OTHERWISE NOTED:	
X.XX	±0.020
X.XXX	±0.005

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

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