

5 to 6 Watt HW Dual Series DC/DC Converters



Description

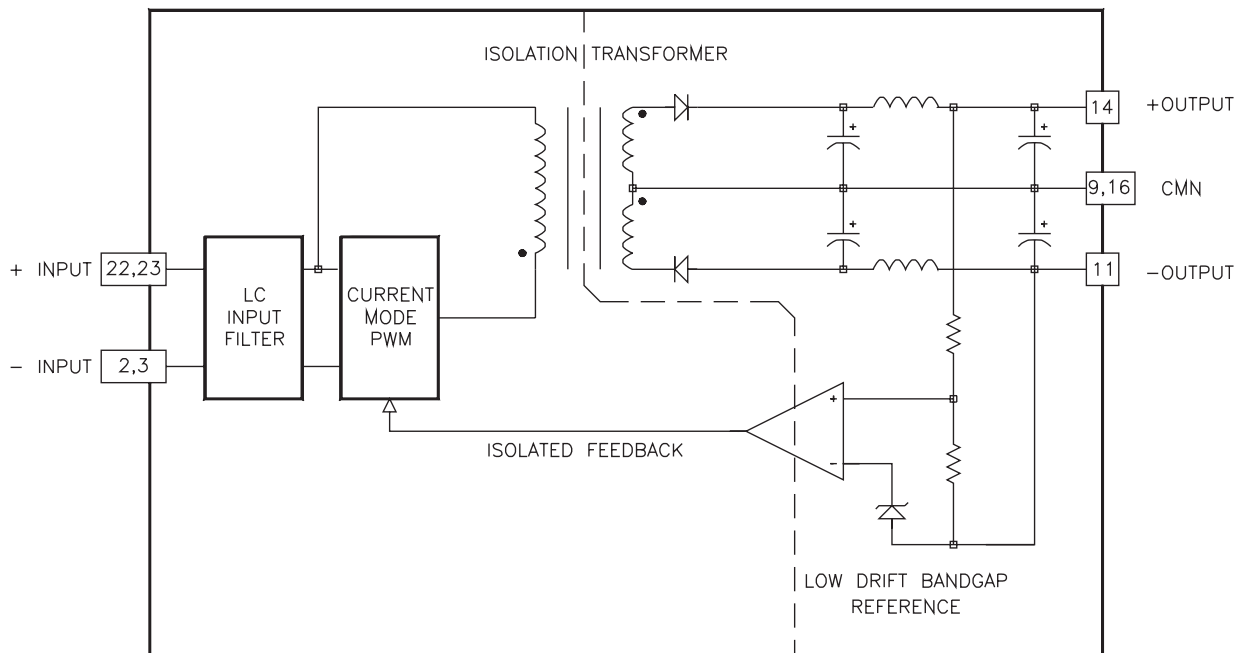
These 5 Watt DC/DC Converters were designed for fast integration with your systems power needs. The 5 Watt HW Duals are ideal for battery operated industrial, medical control and remote data collection systems.

Features

- 4:1 Input Voltage Range
- Internal Input Filter
- Industry Standard Pinout
- Isolation Voltage to 1544 VDC
- Water Washable Case Design

Selection Chart				
Model	Input Range VDC		Output VDC	Output mA
	Min	Max		
24D5.500HW	9	36	±5	500
24D12.250HW	9	36	±12	250
24D15.200HW	9	36	±15	200
48D5.500HW	18	75	±5	500
48D12.250HW	18	75	±12	250
48D15.200HW	18	75	±15	200

5 to 6 Watt Dual HW Series Block Diagram



5 to 6 Watt HW Dual Series DC/DC Converters

Input Parameters					
Model		24D5.500HW	24D12.250HW	24D15.200HW	Units
Voltage Range (1)	MIN MAX	9 36			VDC
Input Current, Full Load	MAX	278	312	312	mA
Efficiency	TYP	75	80	80	%
Switching Frequency	TYP	400			kHz
Maximum Input Overvoltage, 100ms Maximum	MAX	40			VDC
Turn-on Time, 1% Output Error	TYP	45			ms
Recommended Fuse		(3)			AMPS
Model		48D5.500HW	48D12.250HW	48D15.200HW	Units
Voltage Range (1)	MIN MAX	18 75			VDC
Input Current, Full Load	MAX	128	150	150	mA
Efficiency	TYP	81	83	83	%
Switching Frequency	TYP	400			kHz
Maximum Input Overvoltage, 100ms Maximum	MAX	80			VDC
Turn-on Time, 1% Output Error	TYP	45			ms
Recommended Fuse		(3)			AMPS

Output Parameters					
Model		24D5.500HW 48D5.500HW	24D12.250HW 48D12.250HW	24D15.200HW 48D15.200HW	Units
Output Voltage		±5	±12	±15	VDC
Rated Load Range (5)	MIN MAX	±100 ±500	±60 ±250	±50 ±200	mA
Initial Setpoint Accuracy	TYP MAX	±1 ±3			%
Output Balance	TYP	±1			%
Load Regulation, Both Loads changed from Max to Min load (5)	TYP	1			%
Cross Regulation, One Load at Min	TYP	4	2	2	%
Line Regulation Vin=Max to Min	TYP	0.5			%
Noise, 20mHz bw (2)	TYP	1.5% of Output	1% of Output		mV P-P
Temperature Coefficient (4)	TYP	100			ppm/°C
Short Circuit to CMN Nominal Vin		Continuous Auto Restart			

5 to 6 Watt HW Dual Series DC/DC Converters

General Specifications			
All Models			Units
Isolation			
Isolation Voltage Input to Either Output	MIN	1544	VDC
Input to Output Capacitance	TYP	30	pF
Environmental			
Case Operating Range	MIN MAX	-40 +100	°C
Storage Range	MIN MAX	-40 +110	°C
Thermal Impedance (6)	TYP	30	°C/Watt
General			
Unit Weight	TYP	0.5	oz
Case Dimension	0.80" x 1.25" x 0.40"		
Agency Approvals Pending	UL/CUL 60950		

NOTES:

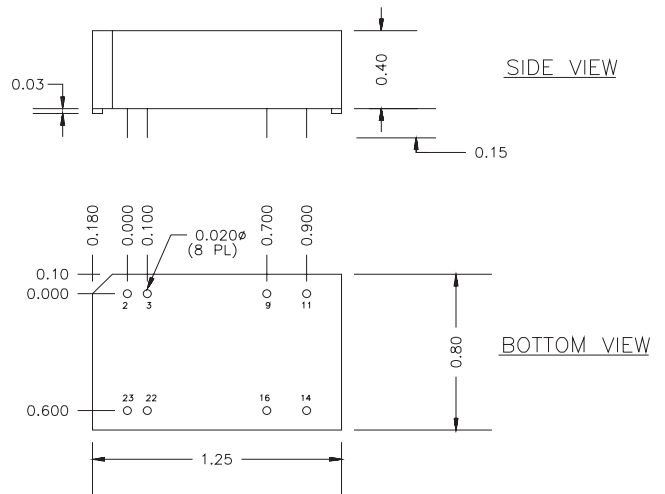
- (1) All parameters measured at Tc=25°C, nominal input voltage and full rated load unless otherwise noted. Refer to the CALEX Application Notes for the definition of terms.
- (2) Output Noise is measured with a 1µF tantalum capacitor and a 0.01µF ceramic capacitor across the output. The fundamental component of noise is at the switching frequency and also is commonly referred to as ripple.
- (3) External fusing should be used for system protection due to a catastrophic failure. See CALEX Application Note 9 in the Calex DC/DC Catalog to determine correct fuse.
- (4) Temperature coefficient is defined for case temperatures. Output voltage deviation is calculated as the maximum resulting from either 1) 25°C case to maximum operating case temperature, or 2) 25°C case to minimum operating case temperature.
- (5) Below the minimum rated load, the output may exhibit noise performance degradation. Operation with less than minimum rated load will not damage the unit, and the DC regulation is not significantly affected.
- (6) The case thermal impedance is specified and the case temperature rise over ambient per package watt dissipated.
- (7) Specifications subject to change without notice.
- (8) 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.
- (9) External Input Capacitance:

The HW Dual Series requires an external input capacitor for proper operation. Operation of this converter without an external input capacitor may cause damage to the converter. A capacitor equivalent to, or larger than a 22µF electrolytic capacitor should be used.

(10) External Output Capacitance:

The maximum external output capacitance per output is 200µF.

Mechanical Outline and Connector Pin Assignments



Mechanical tolerances unless otherwise noted:

X.XX dimensions: ±0.030 inches

X.XXX dimensions: ±0.005 inches

All dimensions in inches.

Pin	Function
2, 3	-INPUT
9, 16	OUTPUT CMN
11	-OUTPUT
14	+OUTPUT
22, 23	+INPUT