

10 WATT CD SINGLE SERIES DC/DC CONVERTERS



Features

- High Temperature Operation, up to 110°C Case with No Derating.
- Fully Self Contained, No External Parts Required for Operation, Ultra Low Input Reflected Ripple
- Fixed Frequency Design
- Low and Specified Input/Output Capacitance
- Overcurrent Protected for Long, Reliable Operation
- Five-sided Shielding
- Water Washable Case Design
- Five Year Warranty
- RoHS Compliant

Description

The 24S5.2000CD DC/DC converter is designed for fast integration with your system's power needs. With no external components or filtering necessary for all but the most critical applications, these converters can provide power instantly. This saves you costly engineering time required to design your system around the power converter.

Selection Chart				
Model	Input Range VDC		Vout VDC	Iout mA
	Min	Max		
24S5.2000CD (RoHS)	18	36	5	2000

Input Parameters *				
Model		24S5.2000CD (RoHS)	Units	
Voltage Range	MIN MAX	18 36	VDC	
Reflected Ripple (2)	TYP	20	mA P-P	
Input Current	Full Load No Load	TYP TYP	495 7	mA
Efficiency	TYP	84	%	
Switching Frequency	TYP	220	kHz	
Maximum Input Overvoltage, 100mS Maximum	MAX	45	VDC	
Turn-on Time, 1% Output Error	TYP	6	ms	
Recommended Fuse		(3)	AMPS	

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) Noise is measured per CALEX Application Notes. Measurement bandwidth is 0-20MHz for peak-peak measurements, 10 kHz to 1 MHz for RMS measurements. Output noise is measured with a 0.01 µF / 100V ceramic capacitor in parallel with a 1 µF / 35V Tantalum capacitor across output pins. Input reflected ripple is measured into a 10 µH source impedance.

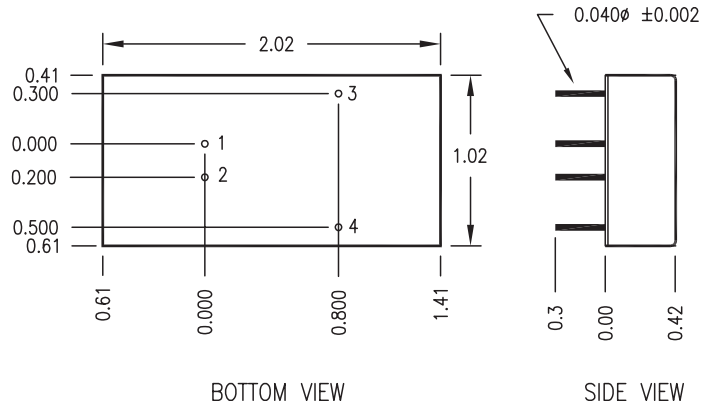
- (3) To determine the correct fuse size, see CALEX Application Notes.
- (4) The Case is tied to the -input pin.
- (5) Short term stability is specified after a 30 minute warm up at full load, constant line and recording the drift over a 24 hour period.
- (6) The transient response is specified as the time required to settle from a 50 to 75 % step load change (rise time of step = 2 µSEC) to a 1% error band.
- (7) Dynamic response is the peak overshoot during a transient 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% of Vin.
- (9) The Case thermal impedance is specified as the case temperature rise over ambient per package watt dissipated.
- (10) Specifications subject to change without notice.
- (11) 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.
- (12) RoHS Compliance:
See Calex Website www.calex.com/RoHS.html for the complete RoHS Compliance statement.
The RoHS marking is as follows.



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Output Parameters *			
Model	24S5.2000CD (RoHS)		Units
Output Voltage	5		VDC
Output Voltage Range	MIN TYP MAX	4.90 5.00 5.10	VDC
Rated Load Range	MIN MAX	0.0 2.0	A
Load Regulation 25% Max Load - Max Load	TYP MAX	0.2 0.4	%
Line Regulation Vin = Min - Max VDC	TYP MAX	0.03 0.2	%
Short Term Stability (5)	TYP	< 0.05	%/24 Hrs
Transient Response (6)	TYP	250	µs
Dynamic Response (7)	TYP	90	mV peak
Input Ripple Rejection (8)	TYP	> 40	dB
Noise, Peak - Peak (2)	TYP	70	mV P-P
Temperature Coefficient	TYP MAX	50 150	ppm/°C
Short Circuit Protection to Common	Continuous, Current Limit Protection		



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

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

General Specifications			
24S5.2000CD (RoHS)			Units
Isolation (4)			
Isolation Voltage Input to Output 10 µA Leakage	MIN	700	VDC
Input to Output Capacitance	TYP	400	pF
Environmental			
Ambient Operating Range No Derating	MIN MAX	85	°C
Case Operating Range No Derating	MIN MAX	-40 110	°C
Storage Range	MIN MAX	-55 120	°C
Thermal Impedance (11)	TYP	14	°C/Watt
General			
Unit Weight	TYP	1.0	oz
Chassis Mounting Kit	MS6, MS8, MS15		
Agency Approvals	CSA/UL 60950		