

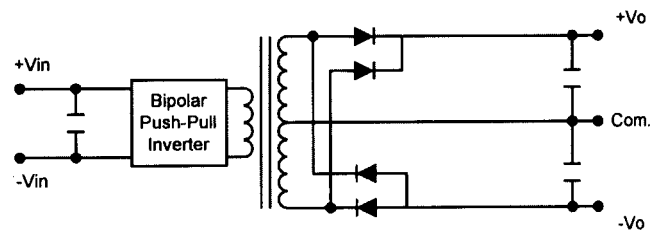
1 Watt SMT Dual Series DC/DC Converters



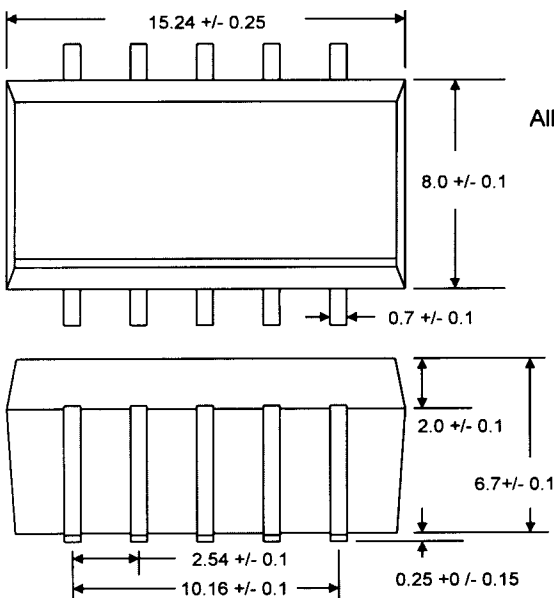
Features

- Lead Frame Technology
- Wide Temperature Performance
- I/O Isolation 1000VDC
- Efficiency Up to 82%
- MTBF >2,000,000 Hours

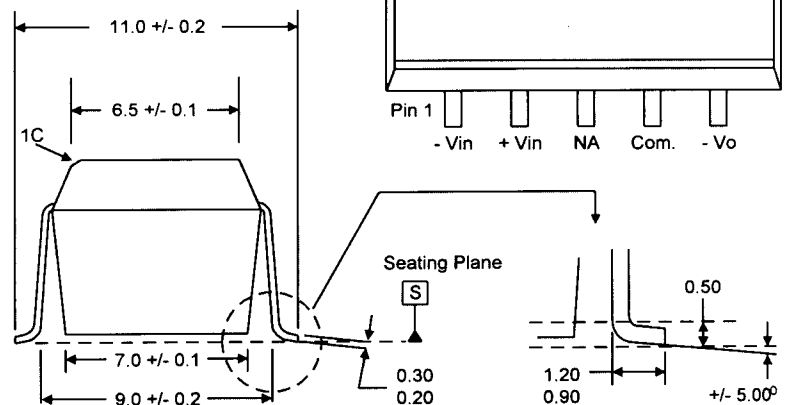
Selection Chart					
Model	Input Range VDC		Output		
	Min	Max	VDC	mA	Power W
5D5.100SMT	4.5	5.5	±5	±100	1
5D9.055SMT	4.5	5.5	±9	±55	1
5D12.042SMT	4.5	5.5	±12	±42	1
5D15.033SMT	4.5	5.5	±15	±33	1
12D5.100SMT	10.8	13.2	±5	±100	1
12D9.055SMT	10.8	13.2	±9	±55	1
12D12.042SMT	10.8	13.2	±12	±42	1
12D15.033SMT	10.8	13.2	±15	±33	1



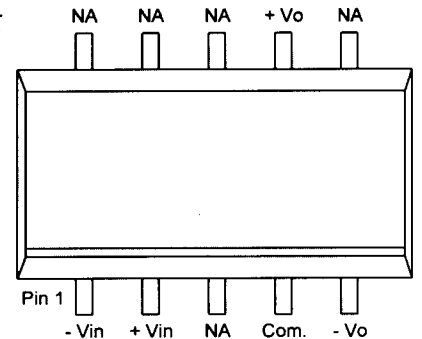
Mechanical Configuration & Pin Connections



All dimensions in mm



NA : Not available for electrical connection



1 Watt SMT Dual Series DC/DC Converters

Input Parameters						
Model		5D5.100SMT	5D9.055SMT	5D12.042SMT	5D15.033SMT	Units
Voltage Range	MIN	4.5				VDC
	TYP	5.0				
	MAX	5.5				
Input Current No Load	TYP	30	30	30	30	mA
Full Load	TYP	267	260	255	251	
Reverse Polarity Input Current	MAX	0.3				A
Input Filter		Internal Capacitor				
Efficiency	TYP	75	76	79	79	%
Switching Frequency	MIN	70				kHz
	TYP	100				
	MAX	140				
Input Surge Voltage (1000 ms)	MIN	-0.7				VDC
	MAX	9				
Internal Power Dissipation	MAX	450				mW
Recommended Fuse		500 mA Slow Blow Type				mA

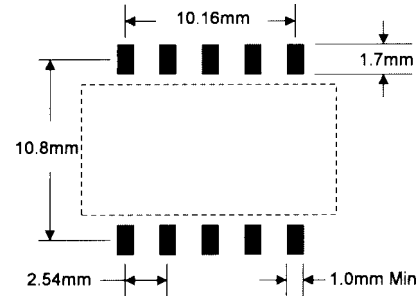
Input Parameters						
Model		12D5.100SMT	12D9.055SMT	12D12.042SMT	12D15.033SMT	Units
Voltage Range	MIN	10.8				VDC
	TYP	12.0				
	MAX	13.2				
Input Current No Load	TYP	15	15	15	15	mA
Full Load	TYP	111	109	105	103	
Reverse Polarity Input Current	MAX	0.3				A
Input Filter		Internal Capacitor				
Efficiency	TYP	75	76	80	80	%
Switching Frequency	MIN	70				kHz
	TYP	100				
	MAX	140				
Input Surge Voltage (1000 ms)	MIN	-0.7				VDC
	MAX	18				
Internal Power Dissipation	MAX	450				mW
Recommended Fuse		200 mA Slow Blow Type				mA

Output Parameters										
Model		5D5.100SMT	12D5.100SMT	5D9.055SMT	12D9.055SMT	5D12.042SMT	12D12.042SMT	5D15.033SMT	12D15.033SMT	Units
Output Voltage		±5		±9		±12		±15		VDC
Output Current	MIN MAX	±2 ±100		±1 ±55		±0.8 ±42		±0.7 ±33		mA
Output Voltage Accuracy	TYP MAX					±1.0 ±3.0				%
Output Balance, Dual Output Balance Load	TYP MAX					±0.1 ±1.0				%
Load Regulation, I _o =20% to 100%	MAX	10	8	10	8	8	5	7	5	%
Line Regulation, for Vin change 1%	TYP MAX					±1.2 ±1.5				%
Ripple & Noise (20MHZ)	TYP MAX					60 120				mV P-P
Ripple & Noise (20MHZ), Over Line, Load & Temp	MAX					150				mV P-P
Ripple & Noise (20MHZ)	MAX					5				mV RMS
Over Load	MIN					120				%
Temperature Coefficient	TYP MAX					±0.01 ±0.02				%/°C
Short Circuit	MAX	0.5 Second								

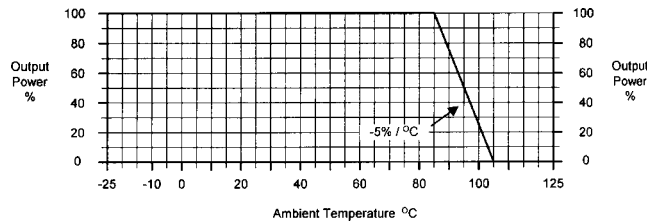
1 Watt SMT Dual Series DC/DC Converters

General Specifications			
All Models			Units
Isolation			
Rated Isolation Voltage, 60 Seconds	MIN	1000	VDC
Isolation Resistance, 500 VDC	TYP	1000	Mohms
Isolation Capacitance, 100kHz, 1V	TYP MAX	40 100	pF
Environmental			
Operating Temperature	MIN MAX	-40 +85	°C
Storage Temperature	MIN MAX	-40 +125	°C
Humidity	MAX	95	%
Cooling	Free-Air Convection		

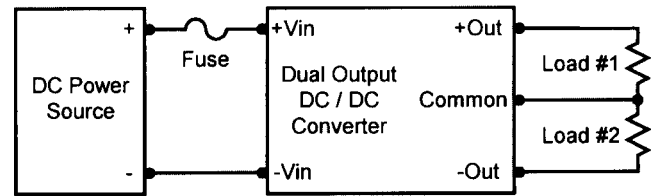
Connecting Pin Patterns



Derating Curve



Typical Applications



Solder Reflow Profile

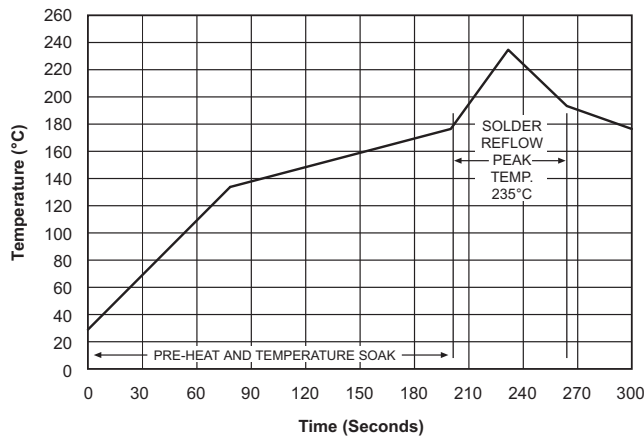


Figure 1.

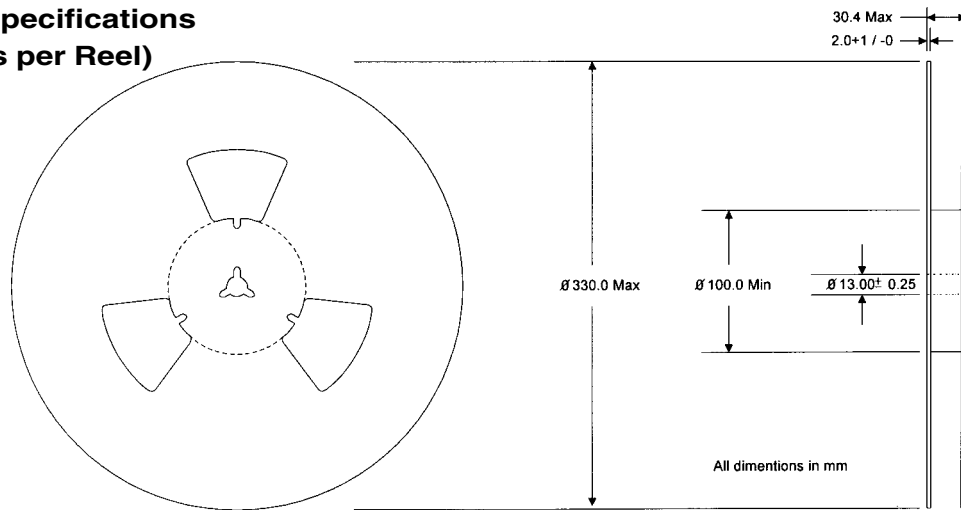
The profile in Figure 1 should be used as a starting point for your own experiments. Obviously your optimal profile will be a function of many factors including, type of paste, paste thickness, board thickness, number of conductive layers, copper weight, the density of surrounding components, etc. It is recommended that the peak temperature should not exceed +235°C for an extended period of time.

NOTES

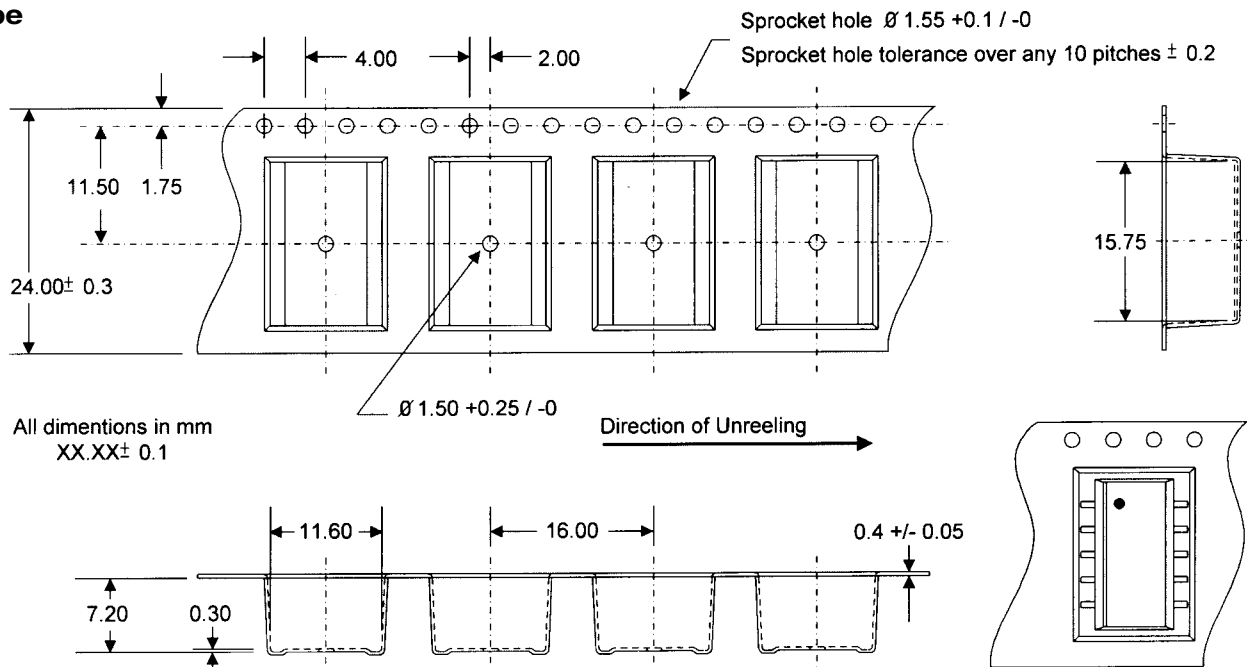
- (1) Specifications typical at $T_a = +25^\circ\text{C}$, resistive load, nominal input voltage, rated output current unless otherwise noted.
- (2) Specifications subject to change without notice.
- (3) Water Washability - Calex DC/DC converters are designed to withstand most solder/wash processes. Careful attention should be used when assessing the applicability in your specific manufacturing process. Converters are not hermetically sealed.

1 Watt SMT Dual Series DC/DC Converters

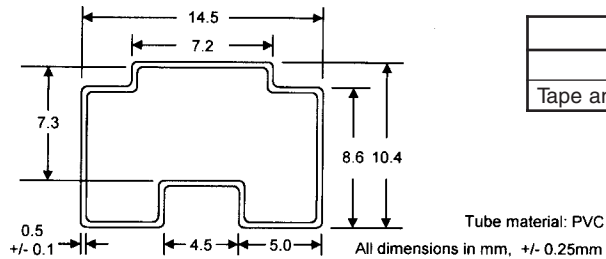
Packaging Specifications Reel (500pcs per Reel)



Tape



Tube (25pcs per Tube)



Packaging Details

Packaging Style	Quantity
Tube	25
Tape and Reel to IEC 286-3 Specifications	500

