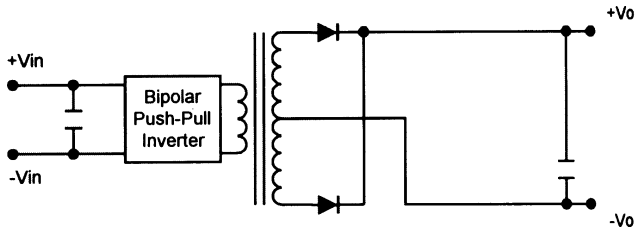
1 Watt SMT Single Series DC/DC Converters

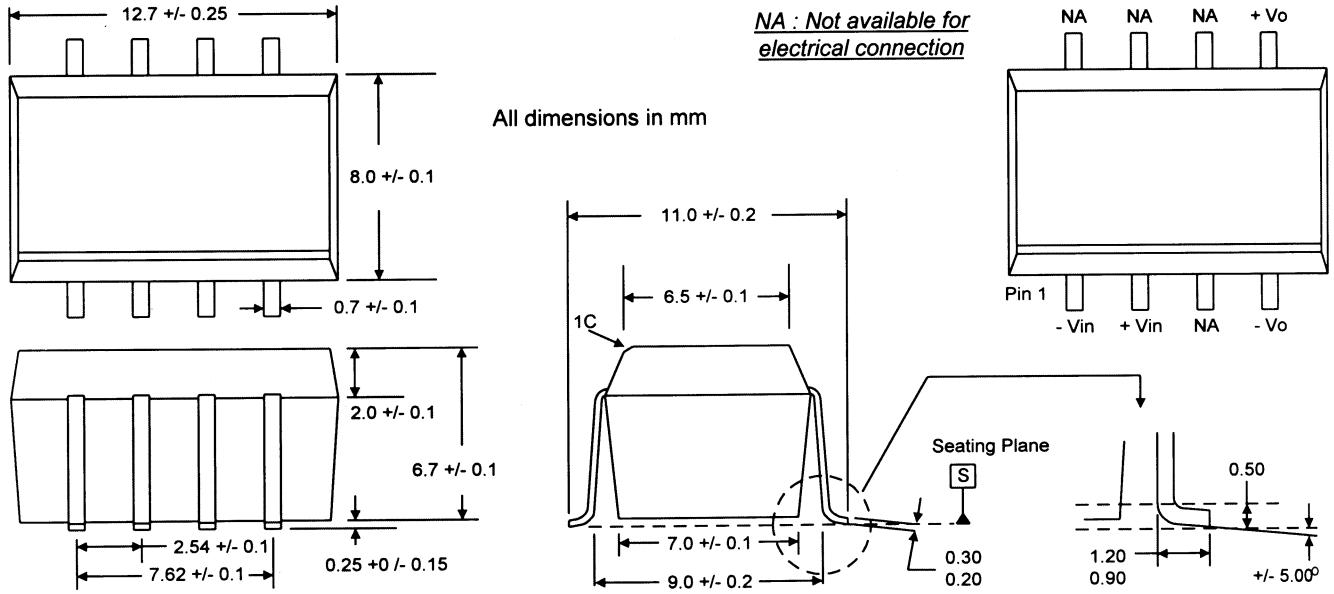
Features

- Lead Frame Technology
- CECC00802 Reflow
- 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
5S5.200SMT	4.5	5.5	5	200	1
5S9.110SMT	4.5	5.5	9	110	1
5S12.084SMT	4.5	5.5	12	84	1
5S15.067SMT	4.5	5.5	15	67	1
12S5.200SMT	10.8	13.2	5	200	1
12S9.110SMT	10.8	13.2	9	110	1
12S12.084SMT	10.8	13.2	12	84	1
12S15.067SMT	10.8	13.2	15	67	1



Mechanical Configuration & Pin Connections



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Input Parameters						
Model		**5S5.200SMT**	**5D9.110SMT**	**5D12.084SMT**	**5D15.067SMT**	**Units**
Voltage Range	MIN TYP MAX	4.5 5.0 5.5				VDC
Input Current No Load Full Load	TYP TYP	30 250	30 254	30 252	30 248	mA
Reverse Polarity Input Current	MAX	0.3				A
Input Filter		Internal Capacitor				
Efficiency	TYP	80	78	80	81	%
Switching Frequency	MIN TYP MAX	70 100 140				kHz
Input Surge Voltage (1000 ms)	MIN MAX	-0.7 9				VDC
Internal Power Dissipation	MAX	450				mW
Recommended Fuse		500 mA Slow Blow Type				mA

Input Parameters						
Model		**12S5.200SMT**	**12S9.110SMT**	**12S12.084SMT**	**12S15.067SMT**	**Units**
Voltage Range	MIN TYP MAX	10.8 12.0 13.2				VDC
Input Current No Load Full Load	TYP TYP	15 103	15 106	15 104	15 102	mA
Reverse Polarity Input Current	MAX	0.3				A
Input FIlter		Internal Capacitor				
Efficiency	TYP	81	78	81	82	%
Switching Frequency	MIN TYP MAX	70 100 140				kHz
Input Surge Voltage (1000 ms)	MIN MAX	-0.7 18				VDC
Internal Power Dissipation	MAX	450				mW
Recommended Fuse		200 mA Slow Blow Type				mA

Output Parameters										
Model		**5S5.200SMT**	**12S5.200SMT**	**5S9.110SMT**	**12S9.110SMT**	**5S12.084SMT**	**12S12.084SMT**	**5S15.067SMT**	**12S15.067SMT**	**Units**
Output Voltage		5		9		12		15		VDC
Output Current	MIN MAX	4 200		2 110		1.5 84		1 67		mA
Output Voltage Accuracy	TYP MAX	±1.0 ±3.0								%
Load Regulation, Io=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								

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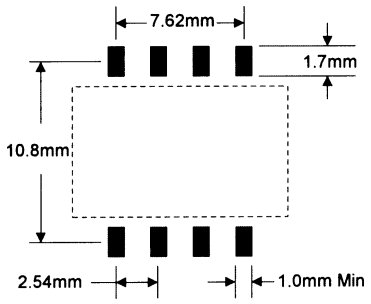
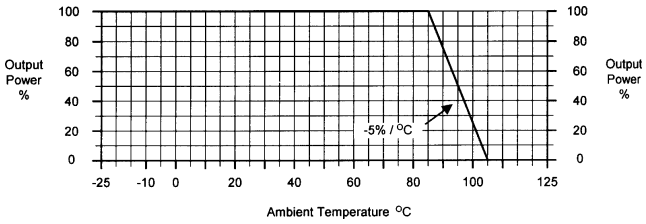
General Specifications			
All Models			**Units**
Isolation			
Rated Isolation Voltage, 60 Seconds	MIN	1000	VDC
Isolation Resistance, 500 VDC	TYP	1000	Mohms
Isolation Capacitance, 100kHz, 1V	TYP MAX	40 100	pF
Environmental			
Operating Temperature	MIN MAX	-25 +85	°C
Storage Temperature	MIN MAX	-40 +125	°C
Humidity	MAX	95	%
Cooling		Free-Air Convection	

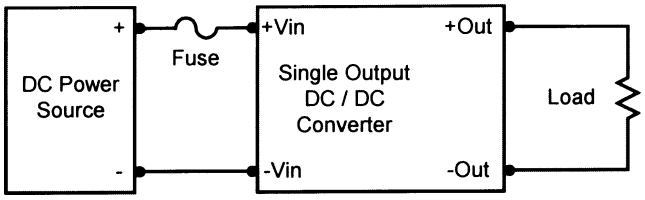
Connecting Pin Patterns



Derating Curve



Typical Applications



Solder Reflow Profile

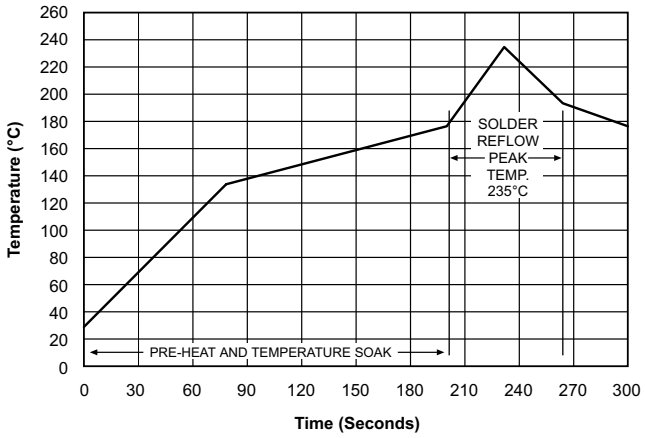


Figure 1.

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 Ta=+25°C, resistive load, nominal input voltage, rated output current unless otherwise noted.

(2) Specifications subject to change without notice.

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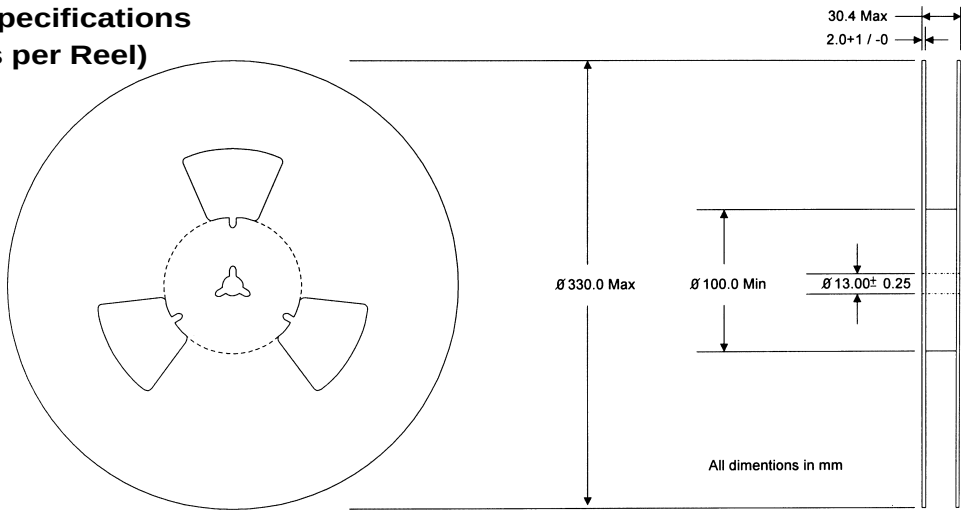
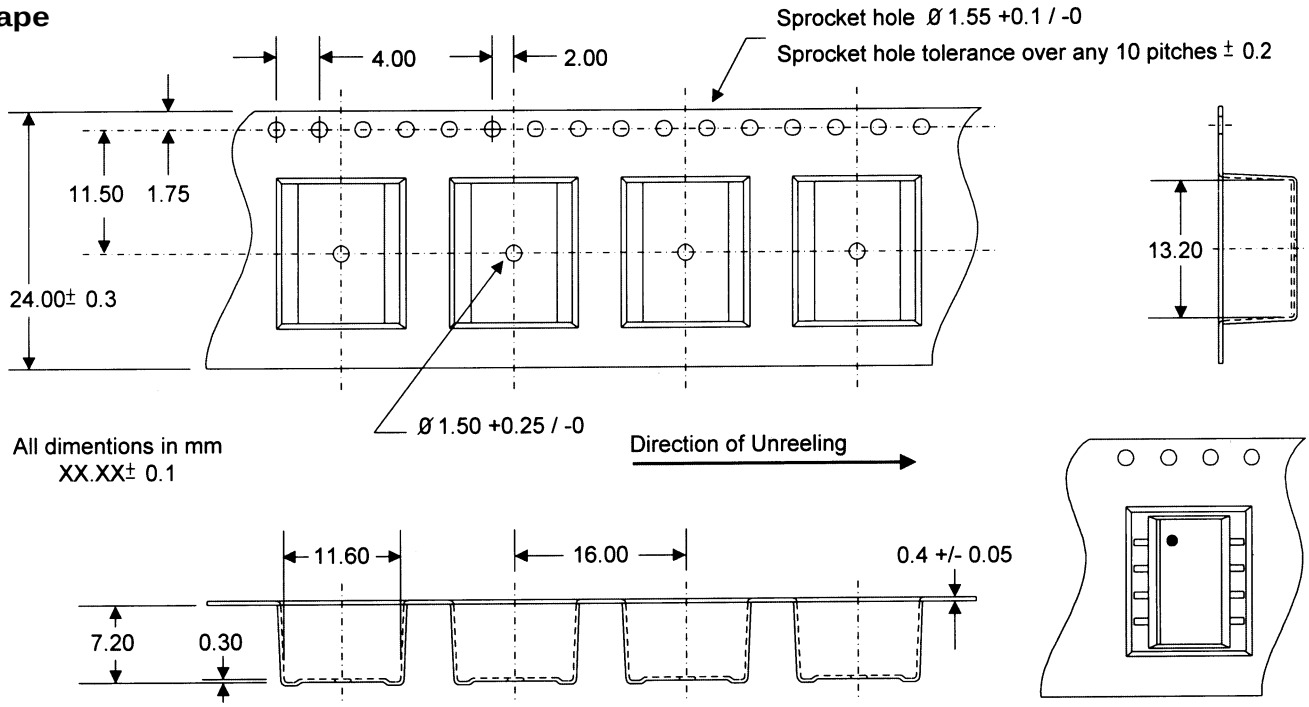
Packaging Specifications

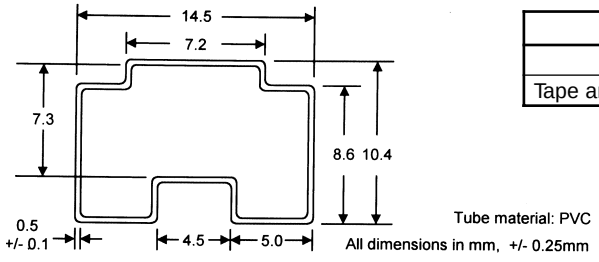
Reel (500pcs per Reel)



Tape

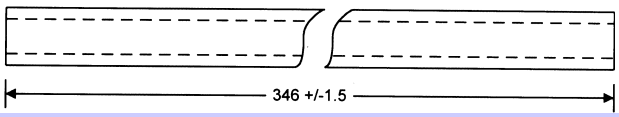


Tube (25pcs per Tube)



Packaging Details

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



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