

MDE Semiconductor, Inc.

201 Shipyard Way, Unit C, Newport Beach, CA., USA 92663 Tel : 760-564-8656 • Fax : 760-564-2414

1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

SMDMAX-100

Surface Mount Transient Voltage Suppressor

113,400 Watt Peak Pulse Power

FEATURES

- Compact design having the MAX Power TVS in surface mounted package
- MAX-Avalanche™ technology for superior clamping
- Ideal for automatic pick and place assembly and reflow process to reduce the manufacturing cost and increase the soldering quality compared to axial lead package
- Bi-directional
- Sharp breakdown voltage
- Halogen free and RoHS Compliant
- Low clamping and slope resistance
- Plastic package has underwriters laboratory flammability classification V-0
- Operating Junction and Storage Temperature -40°C~125°C
- Meets MSL level 1, per J-STD-020, maximum peak of 260°C



Physical Specifications:

- Case: Epoxy encapsulated
- Terminal: Tin Plated lead, solderable per MIL-STD-202 Method 208
- Weight: 4.34g

Applications

- Aerospace and Defense
- RTCA/DO-160 Airbourne Equipment
- Shipboard MIL-STD 1399 Section 300 B Requirements
- Railway Signal Controls
- Cell Tower Base Stations

Maximum Ratings

- 10kA surge capability at 8 x 20µsec waveform

Electrical Characteristics

Part Numbers	Standoff Voltage (V _{SO})	Max. Reverse Leakage (I _R) @ V _{SO}	Reverse Breakdown Voltage (V _{BR}) @ I _T			Test Current I _T	Max. Clamping Voltage V _{CL} @ Peak Pulse Current (I _{PP})			Max. Temp Coefficient of V _{BR}	Max. Capacitance 0 Bias 10kHz
	(V)	(µA)	Min Volts	Max Volts	(mA)	V _{CL} Volts	I _{PP} 8/20µS min (A)	I _{PP} 10/350µS min (A)	I _{PP} 10/1000µS min (A)	(%/°C)	(nF)
SMDMAX-100CA	86	10	95	105	10	157	10,000	900	1,080	0.1	6.5

Note: Using 8/20µS wave shaped defined in IEC 61000-4-5.

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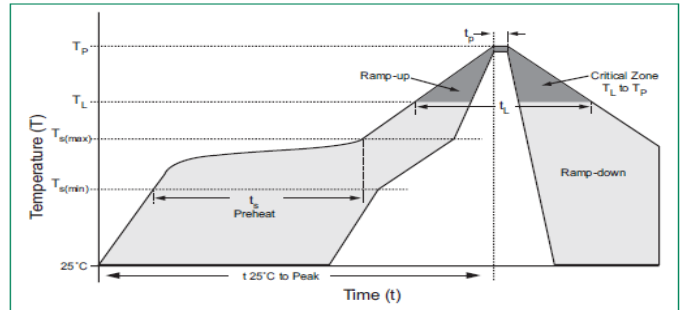
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Surface Mount Transient Voltage Suppressor

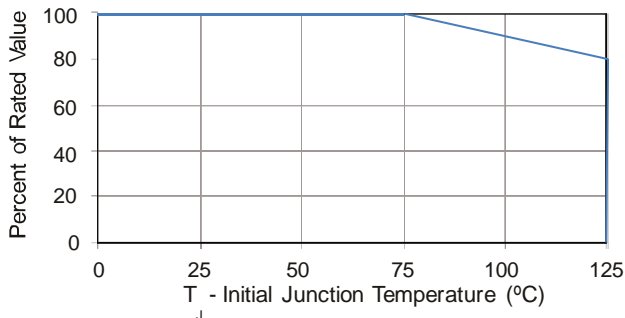
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Solder Parameters

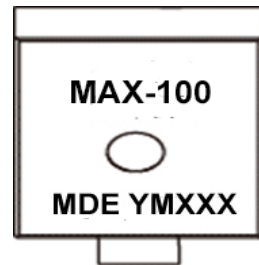
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_A) to peak)		3°C/second max
$T_{s(max)}$ to T_A - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_A) (Liquidus)	217°C
	- Time (min to max) (t_s)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



Peak Power Derating



Part Marking



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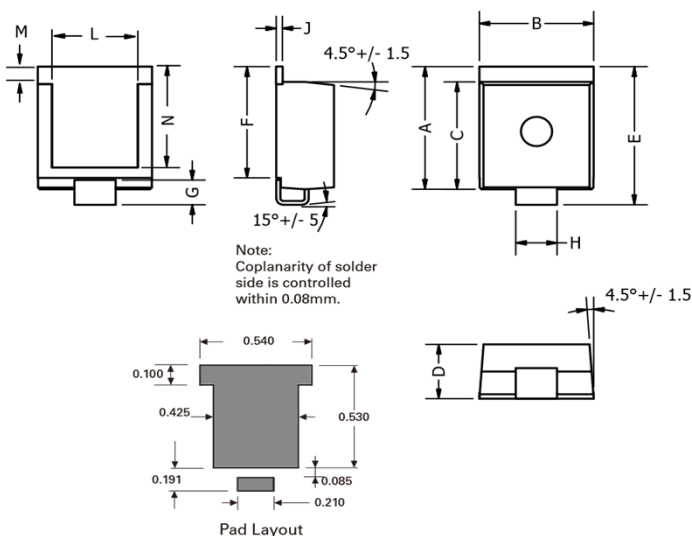
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Dimensions-SMTO-218



Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.621	0.655	15.78	16.63
B	0.529	0.594	13.43	15.09
C	0.544	0.561	13.83	14.24
D	0.273	0.285	6.94	7.24
E	0.702	0.737	17.82	18.72
F	0.567	0.587	14.4	14.9
G	0.087	0.126	2.2	3.2
H	0.193	0.222	4.89	5.65
J	0.028	0.033	0.72	0.85
L	0.4	0.44	10.17	11.17
M	0.073	0.112	1.85	2.85
N	0.51	0.533	12.95	13.55

Packaging

Part Number	Packing Mode	Base
SMDMAX-100-xxCA	Tape & Reel – 32mm/13"tape	400
SMDMAX-100-xxCA-TP	Tube Pack	100(25/Tube)

Tape and Reel Specification

