

MDE Semiconductor, Inc.

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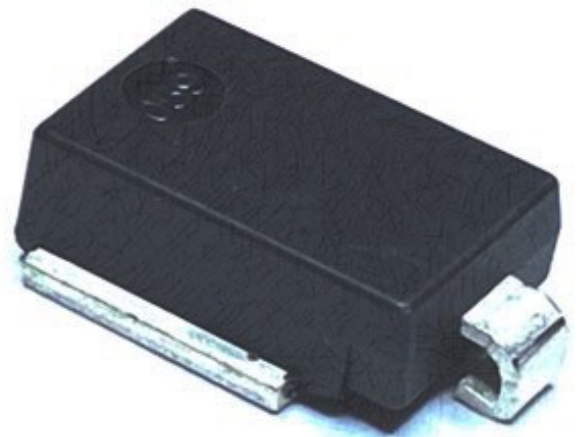
SMDMAX - 5KA Series

**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 58 TO 86 Volts**

FEATURES

- Halogen-Free
- RoHS compliant
- Glass Passivated Junction technology
- $T_J = 150\text{ }^\circ\text{C}$ capability suitable for high reliability
- Available in bi-polar directional polarity
- Low leakage current
- High surge capability
- Excellent clamping capability
- Peak Pulse Current (8/20us): 5 kA
- Meets MSL level 1, Per J-STD-020

DO-218S



TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting.

MECHANICAL DATA

Case: DO-218S Molded plastic over glass passivated junction
Molding compound meets UL 94 V-0 flammability rating

Polarity: Bi-polar directional polarity

Terminal: Solderable per MIL-STD-750, Method 2026

Mounting Position: Any

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Current of on 8/20 μs waveform (Note 1)	I_{PPM}	5000	Amps
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	$^\circ\text{C}$

Note

(1) Non-repetitive current pulse derated above $T_A = 25\text{ }^\circ\text{C}$

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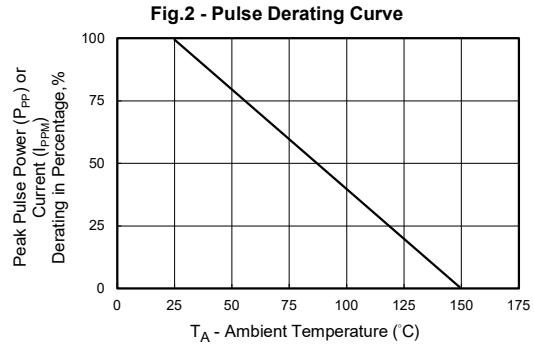
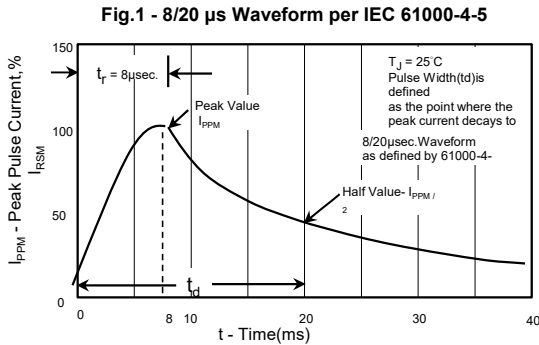
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PART NUMBER	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE $V_{RWM}(V)$	BREAKDOWN VOLTAGE $V_{BR}(V) @ I_T$		TEST CURRENT $I_T (mA)$	REVERSE LEAKAGE @ V_{RWM} $I_R(\mu A)$	PEAK PULSE CURRENT (1) @ $I_{PP}(A)$ (8/20 μs per IEC 61000-4-5)	MAXIMUM CLAMPING VOLTAGE @ $I_{PP} V_C (V)$
			MIN	MAX				
SMDMAX-5KA-058CA	5K58C	58	64	70	10	10	5000	90
SMDMAX-5KA-066CA	5K66C	66	72	80	10	10	5000	96
SMDMAX-5KA-076CA	5K76C	76	85	95	10	10	5000	110
SMDMAX-5KA-086CA	5K86C	86	95	105	10	10	5000	127

Note :

- VC measured at the time coincident with the peak surge current

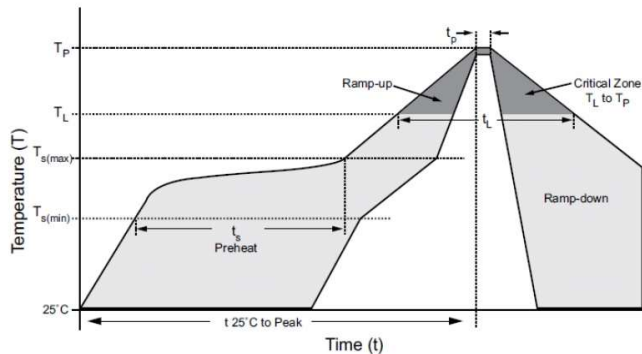
Ratings and Characteristic Curves(TA=25°C unless otherwise noted)



Soldering 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 - 120 secs
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	-Temperature Min (T_L)	217°C
	Time (t_r) maintained above T_L	60 - 150 seconds
Peak temperature(T_p)		245 $^{+0/-50}$ °C
Time within 5°C of actual peak Temperature(t_p)		20 - 40 seconds
Ramp-down Rate		6°C/second max
Time 2 5°C to peak Temperature(T_p)		8 minutes Max.

Soldering Profile



Note : Number of reflow cycles allowed 3 times

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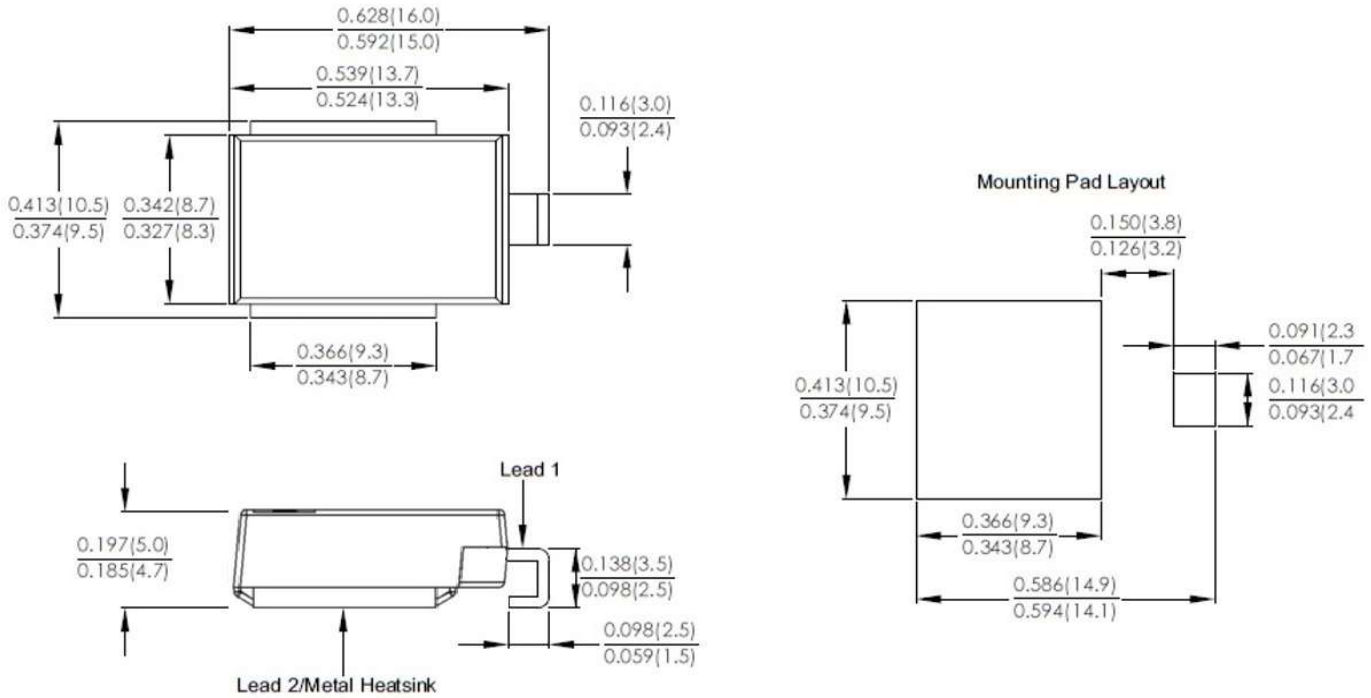
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SMDMAX-5KA-XXXCA	DO-218S	750	Tape & Reel - 24mm/13" tape	EIA STD RS-481