

SMAJ Series

Description

The SMAJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000µs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: : Color band denotes cathode end except Bipolar
- Mounting position: Any



Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000µs waveform ¹	P _{PP}	400	Watts
Peak pulse current with a 10/1000µs waveform	I _{pp}	See Next Table	A
Power dissipation on infinite heatsink at T _L = 25 °C	P _D	1	W
Peak forward surge current 8.3 ms single half sine-	I _{FSM}	40	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V _F	3.5	V
Operating junction and storage temperature range	T _J T _{STG}	-55 to +150	°C

Note:

1. Non-repetitive current pulse per Fig.5 and derated above T_A = 25 °C per Fig.1
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number (Bi)	Part Number (Uni)	MARKING		Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts)@I _T		Test Current I _T (mA)	Maximum Reverse Leakage I _R @ V _R (µA)	Maximum Peak Pulse Current I _{pp} (A)	Maximum Clamping Voltage V _C @ I _{pp} (V)
		BI	UNI		Min .V	Max .V				
SMAJ3.3CA	SMAJ3.3A	3.3C	3.3	3.3	4.1	6	10	150	54.8	7.3

Rating & Characteristic Curves

Figure 1- Pulse Derating Curve

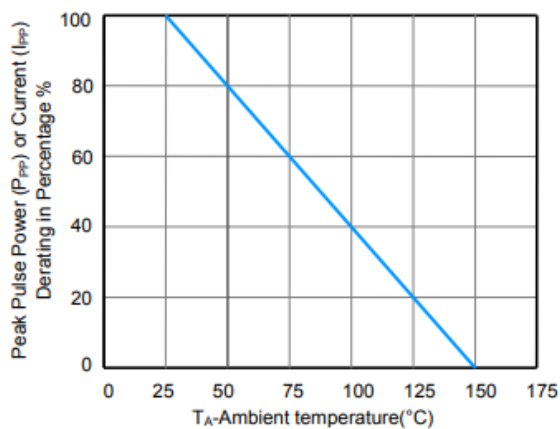


Figure 2- Maximum Non-Repetitive Surge Current

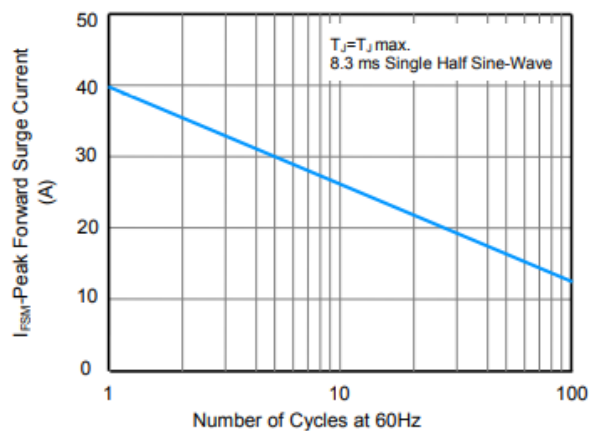


Figure 3- Steady State Power Derating Curve

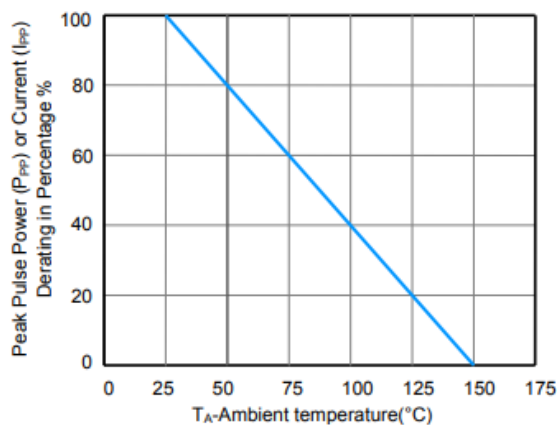


Figure 4-- Peak Pulse Power Rating Curve

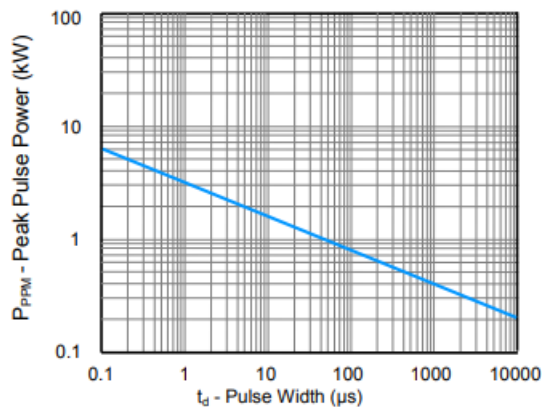
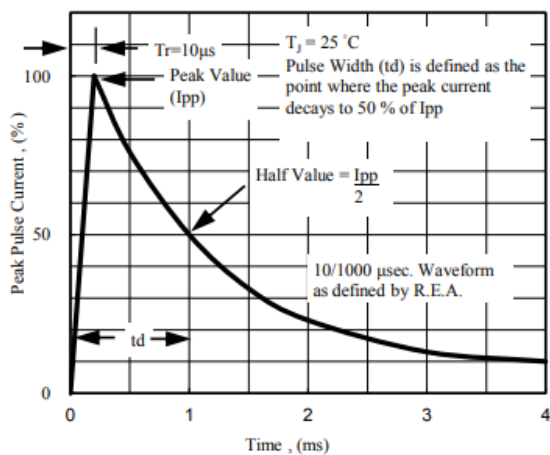
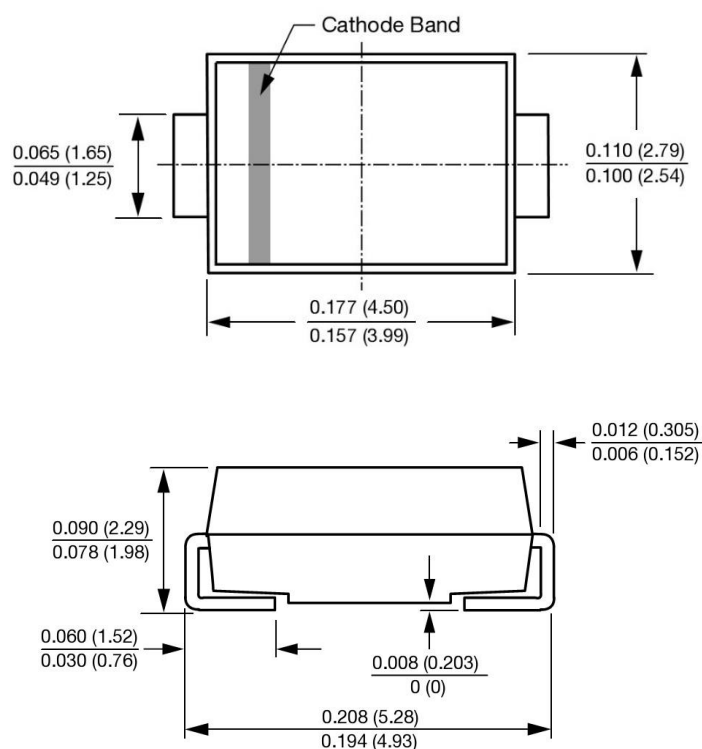


Figure 5- - Pulse Waveform

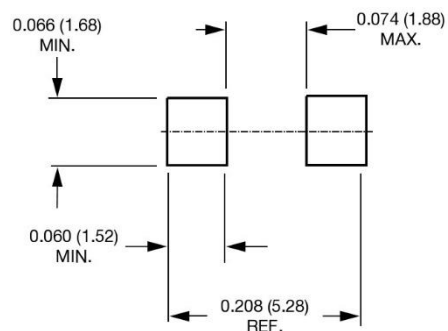


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)



Mounting Pad Layout



Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.