

Description

SMAJ Series transient voltage suppressors are excellent overvoltage protective devices.

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

Features

- Excellent clamping capability
- Low leakage current
- High surge capability
- Glass passivated chip
- Epoxy resin package
- Built-in strain relief
- Will not fatigue
- RoHS Compliant
- Fast response time:
typically less than 1.0ps from 0 Volts to VBR min

Mechanical Characteristics

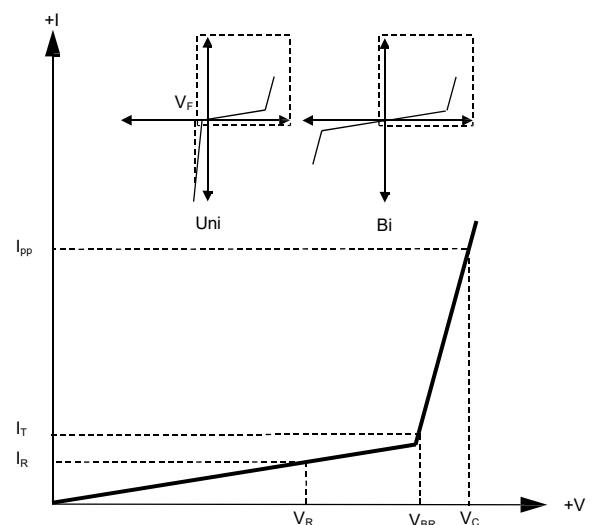
- Package: SMA plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

Applications

- Telecom
- Computer
- Industrial electronic
- Consumer electronic

Electrical Parameters

Parameter	Definition
C_J	Junction Capacitance - typical capacitance measured with 0V or V_R bias
I_{PP}	Peak Pulse Current - maximum rated peak impulse current
V_C	Clamping Voltage - Peak voltage measured across the suppressor at a specified I_{ppm} (peak impulse current)
V_{BR}	Breakdown Voltage - Maximum voltage that flows through the TVS at a specified test current (I_T)
I_R	Leakage Current - maximum peak off-state current measured at V_R
V_R	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state



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

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Power Dissipation	P _{PPM}	400	W	(Note1)(Note2)
Steady State Power Dissipation	P _D	3.3	W	(Note3)
Peak Forward Surge Current	I _{FSM}	40	A	(Note4)
Maximum Instantaneous Forward Voltage at 50A	V _{FM}	3.5/6.5	V	(Note5)
Typical Thermal Resistance Junction to Lead	R _{θJL}	30	°C/W	
Typical Thermal Resistance Junction to Ambient	R _{θJA}	120	°C/W	
Operating Temperature Range	T _J	-55 to 150	°C	
Storage Temperature Range	T _{STG}	-55 to 150	°C	

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 5×5mm to each terminal.

Notes3: Infinite HeatS ink at TL=50°C

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perm inute maximum.

Notes5: For UnidirectionalOnly, V_{FM}<3.5V for V_{BR} ≤ 200V and V_{FM}<5.0V for V_{BR} ≥ 201V.

Electrical Characteristics (TA=25°C unless otherwise)

Type Number	Device Marking Code	Reverse Stand off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage@I _{PP}	Peak Pulse Current	Reverse Leakage@V _{RWM}
		V _{RWM} (V)	V _{BR MIN.} (V)	(V)		VC(V)	I _{PP} (A)	I _R (μA)
SMAJ3.3A	3.3A	3.3	5.2	6.0	10	7.3	54.8	200

Rating And Characteristic Curves (TA=25°C unless otherwise noted)

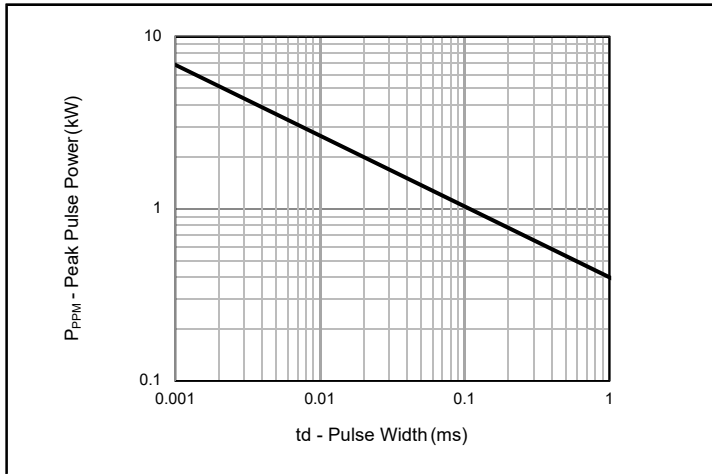


Fig.1 - Peak Pulse Power Rating

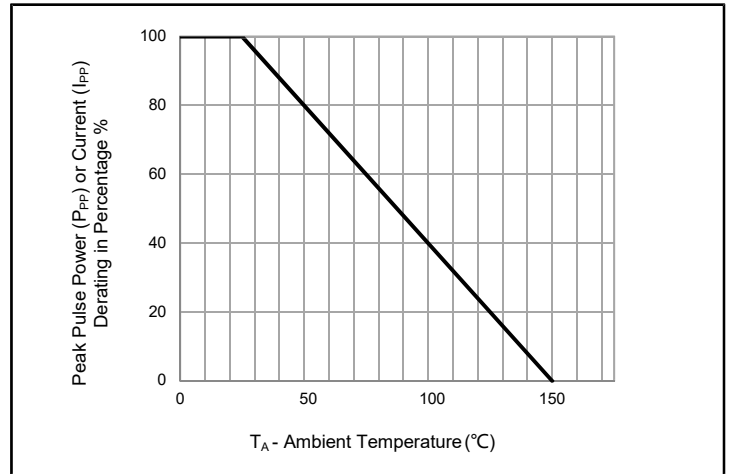


Fig.2 - Pulse Derating Curve

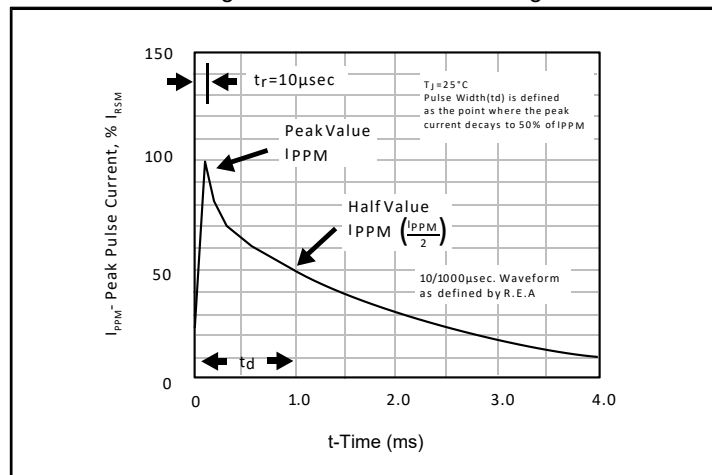


Fig.3 - Pulse Waveform

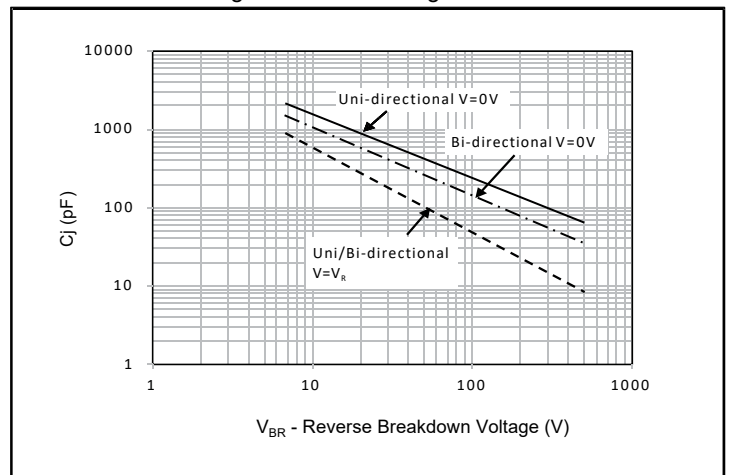


Fig.4 - Typical Junction Capacitance

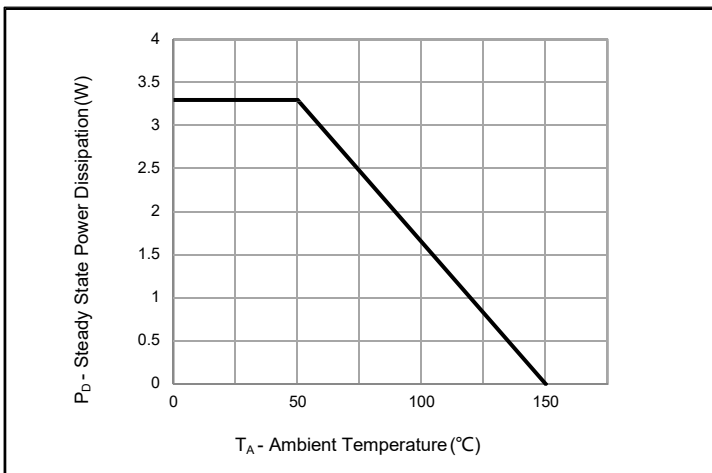


Fig.5 - Steady State Power Dissipation Derating Curve

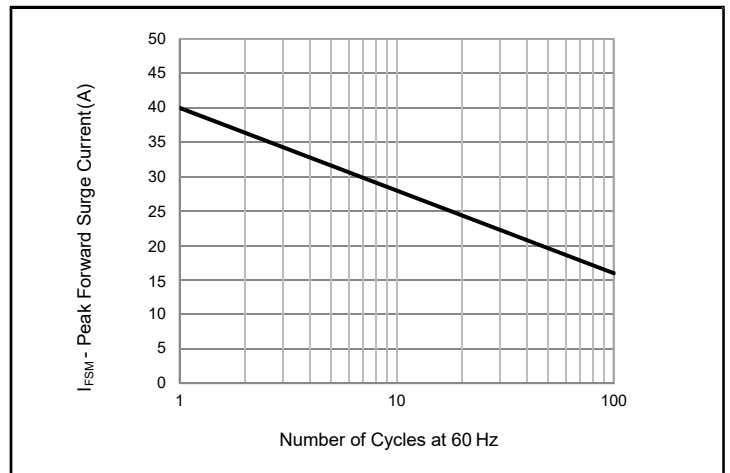


Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current
Uni-Directional Only

Package Outline Dimensions in inches (millimeters)

