

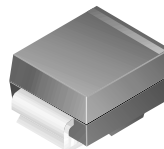


Transient Voltage Suppressor SMBJ13A100

Features

- Glass passivated junction.
- 600W Peak Pulse Power capability on 10/1000 μ s waveform.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time; typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0 ns for bidirectional.
- Typical I_R less than 1.0 μ A above 10V.

Top
Marking
LG.



SMB/DO-214AA

COLOR BAND DENOTES CATHODE
ON UNIDIRECTIONAL DEVICES ONLY.
NO COLOR BAND ON BIDIRECTIONAL
DEVICES.

DEVICES FOR BIPOLAR APPLICATIONS

- Bidirectional types use CA suffix.
- Electrical Characteristics apply in both directions.

600 Watt Transient Voltage Suppressor

Absolute Maximum Ratings*

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_{PPM}	Peak Pulse Power Dissipation on 10/1000 μ s waveform	minimum 600	W
I_{PPM}	Peak Pulse Current on 10/1000 μ s waveform	see table	A
I_{FSM}	Non-repetitive Peak Forward Surge Current superimposed on rated load (JEDEC method) (Note 1)	100	A
T_{stg}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	+ 150	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Note 1: Measured on 8.3 ms single half-sine wave or equivalent square wave; Duty cycle = 4 pulses per minute maximum.

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

Uni-directional Device	Part Marking*	Reverse Stand-off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V)		Test Current I_T (mA)	Clamping Voltage @ I_{PPM} V_C (V)	Peak Pulse Current I_{PPM} (A)	Reverse Leakage @ V_{RWM} I_R (nA)**
			min	max				
SMCJ13A100	LG.	13	14.4	15.9	1	21.5	27.9	100

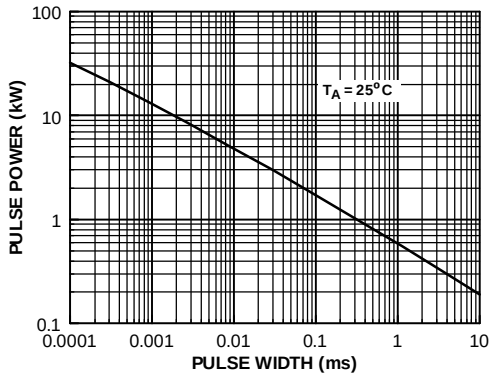
* Color band denotes cathode on unidirectional devices only. No color band on bidirectional devices.

** For bidirectional parts with $V_{RWM} < 10\text{V}$, the I_R max limit is doubled.

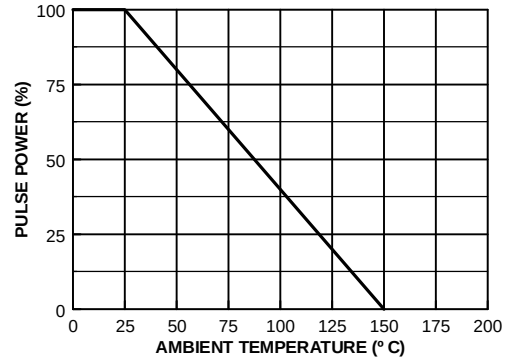
Transient Voltage Suppressor (continued)

Typical Characteristics

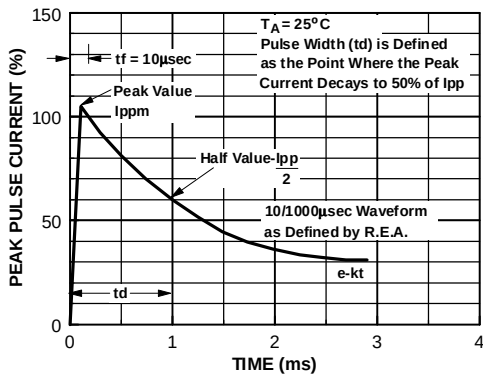
Peak Pulse Power Rating Curve



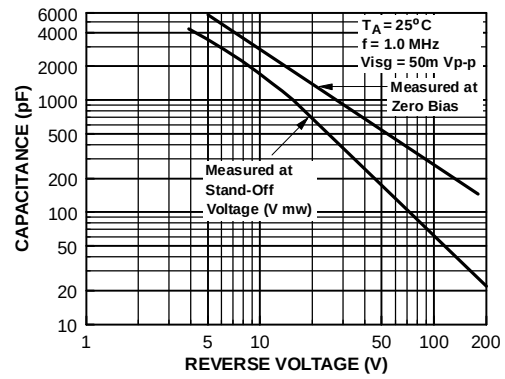
Pulse Derating Curve



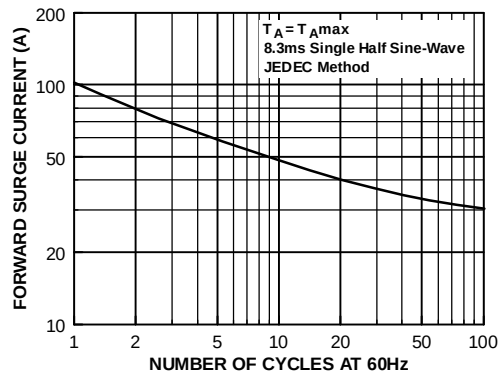
Pulse Waveform



Junction Capacitance



Non-Repetitive Surge Current



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CROSSVOLT™	GlobalOptoisolator™	PACMAN™	STAR*POWER™	
DenseTrench™	GTO™	POP™	Stealth™	
DOME™	HiSeC™	Power247™	SuperSOT™-3	
EcoSPARK™	I ² C™	PowerTrench®	SuperSOT™-6	
E ² CMOS™	ISOPLANAR™	QFET™	SuperSOT™-8	
EnSigna™	LittleFET™	QS™	SyncFET™	
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