

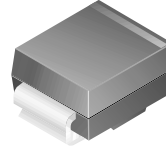


## Transient Voltage Suppressor SMBJ13A100

### Features

- Glass passivated junction.
- 600W Peak Pulse Power capability on 10/1000  $\mu$ 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  $\mu$ 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 $\mu$ s waveform	minimum 600	W
$I_{PPM}$	Peak Pulse Current on 10/1000 $\mu$ 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

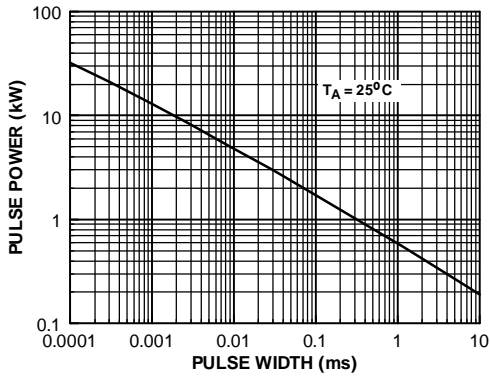
Uni-directional Device	Part Marking*	Reverse Stand-off Voltage $V_{RWM}$ (V)	Breakdown Voltage $V_{BR}$ (V)		Test Current $I_T$ (mA)	Clamping Voltage @ $I_{PPM}$ $V_C$ (V)	Peak Pulse Current $I_{PPM}$ (A)	Reverse Leakage @ $V_{RWM}$ $I_R$ (nA)**
			min	max				
SMCJ13A100	LG.	13	14.4	15.9	1	21.5	27.9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

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

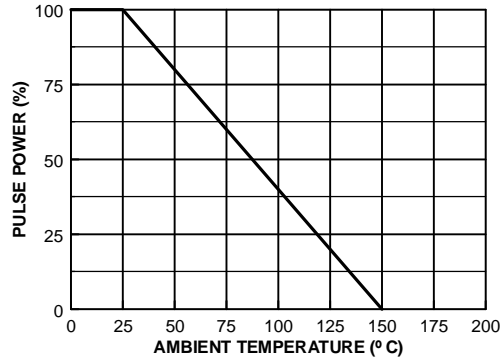
\*\* For bidirectional parts with  $V_{RWM} < 10\text{V}$ , the  $I_R$  max limit is doubled.

Typical Characteristics

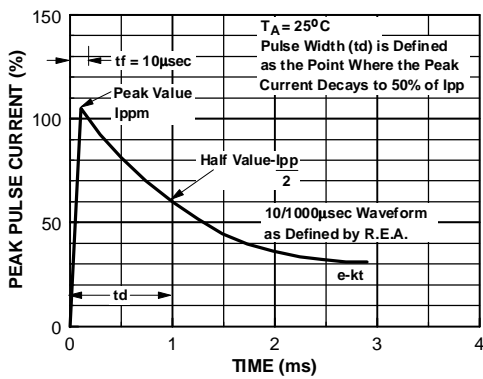
Peak Pulse Power Rating Curve



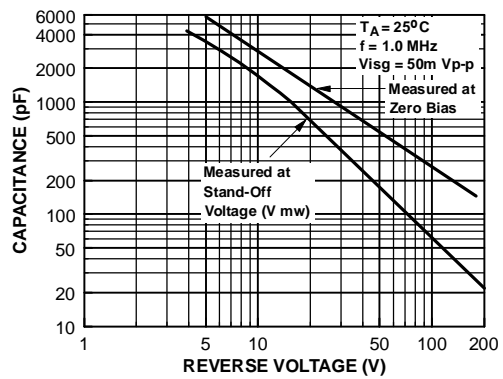
Pulse Derating Curve



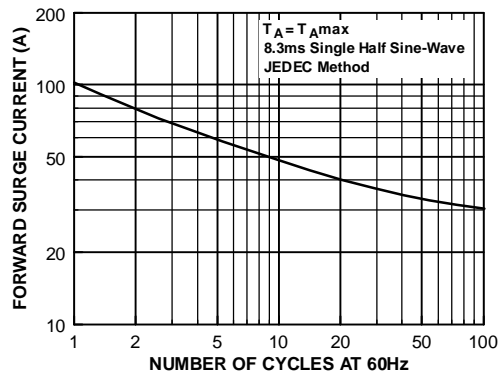
Pulse Waveform



Junction Capacitance



Non-Repetitive Surge Current



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E <sup>2</sup> CMOS <sup>™</sup>	ISOPLANAR <sup>™</sup>	QFET <sup>™</sup>	SuperSOT <sup>™</sup> -8	
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