



## SMBJXXXXX

TVS

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

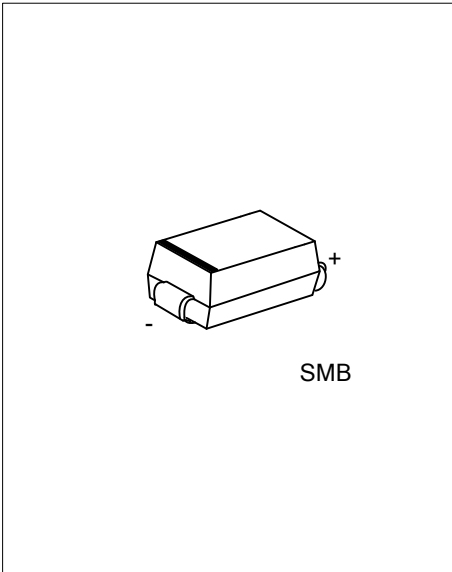
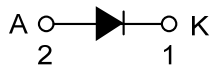
#### DESCRIPTION

The UTC **SMBJXXXXX** is a surface mount transient voltage suppressors, it uses UTC's advanced technology to provide customers with low leakage and very fast response time, etc.

#### FEATURES

- \* Low leakage and
- \* Very fast response time

#### SYMBOL



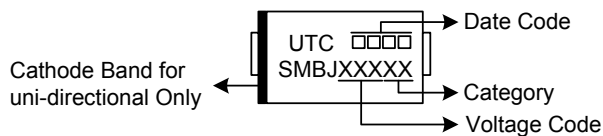
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
SMBJXXXXXL-SMB-R	SMBJXXXXXG-SMB-R	SMB	K	A	Tape Reel

Note: Pin Assignment: K: Cathode A: Anode

<p>SMBJXXXXXL-SMB-R</p>	<p>(1) R: Tape Reel  (2) SMB: SMB  (3) L: Lead Free, G: Halogen Free  (4) A: 5% uni-directional, CA: 5% Bi-directional  (5) xxx: refer to ELECTRICAL CHARACTERISTICS</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	RATINGS	UNIT
Peak Power Dissipation with a 10/1000 $\mu\text{s}$ Waveform (Note 2)	$P_{PP}$	600	W
Peak Pulse Current with a 10/1000 $\mu\text{s}$ Waveform (Note 2)	$I_{PP}$	See ELECTRICAL CHARACTERISTICS Table	A
Power Dissipation On Infinite Heatsink at $T_L = 75^{\circ}\text{C}$	$P_D$	5.0	W
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Unidirectional Only (Note 3)	$I_{FSM}$	100	A
Maximum Instantaneous Forward Voltage at 50 A for Unidirectional Only (Note 4)	$V_F$	3.5/5.0	V
Operating Junction Temperature	$T_J$	-55~+150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Non-repetitive current pulse and derated above  $T_A=25^{\circ}\text{C}$

3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

4.  $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 5.0\text{V}$  for devices of  $V_{BR} > 201\text{V}$ .

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

PART NUMBER (Uni)	PART NUMBER (Bi)	BREAKDOWN VOLTAGE $V_{BR} @ I_T$			MAXIMUM REVERSE LEAKAGE $I_R @ V_{RWM}$ ( $\mu\text{A}$ )	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$ (V)	MAXIMUM REVERSE SURGE CURRENT $I_{PP}$ (A)	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ (V)
		MIN (V)	MAX (V)	$I_T$ (mA)				
SMBJ5A	SMBJ5CA	6.40	7.00	10	800	5.0	65.22	9.2
SMBJ6A	SMBJ6CA	6.67	7.37	10	800	6.0	58.25	10.3
SMBJ6V8A	SMBJ6V8CA	6.46	7.14	10	1000	5.8	57.14	10.5
SMBJ12A	SMBJ12CA	11.40	12.60	1	5	10.2	35.93	16.7
SMBJ20A	SMBJ20CA	19.00	21.00	1	1	17.1	21.66	27.7

■ TYPICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Fig 1. Pulse Derating Curve

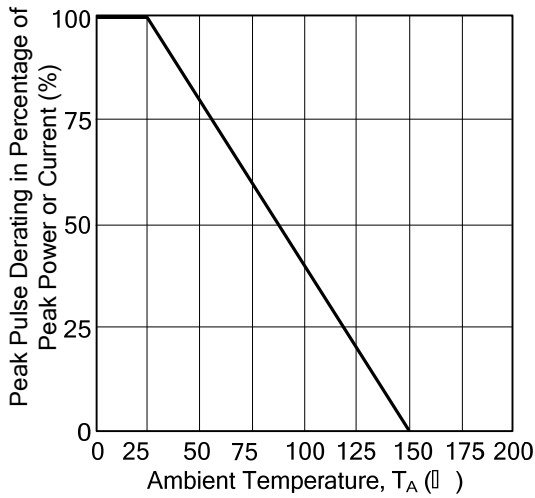


Fig 2. Maximum Non-Repetitive Surge Current

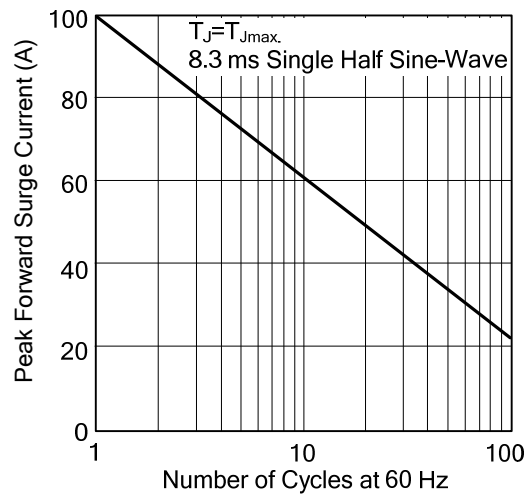


Fig 3. Steady State Power Derating Curve

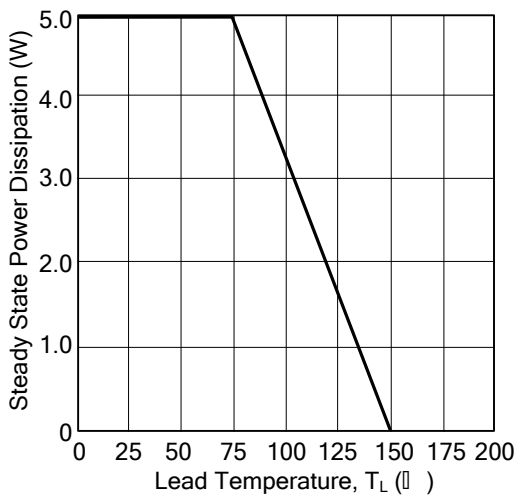


Fig 4. Peak Pulse Power Rating Curve

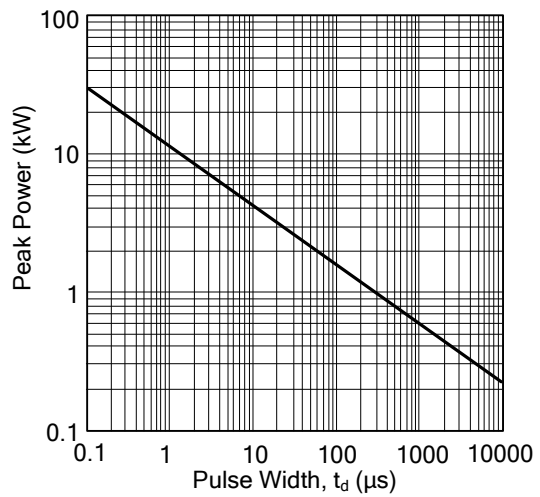


Fig 5. Pulse Waveform

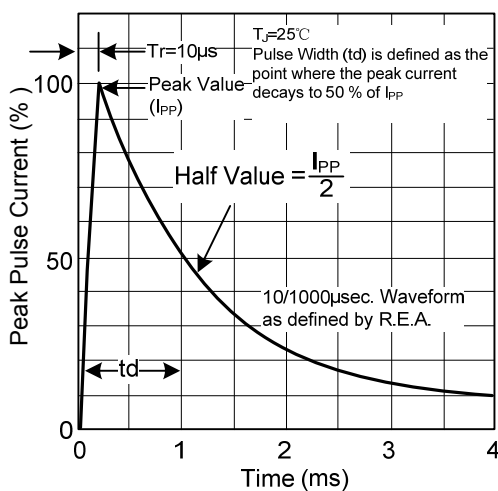
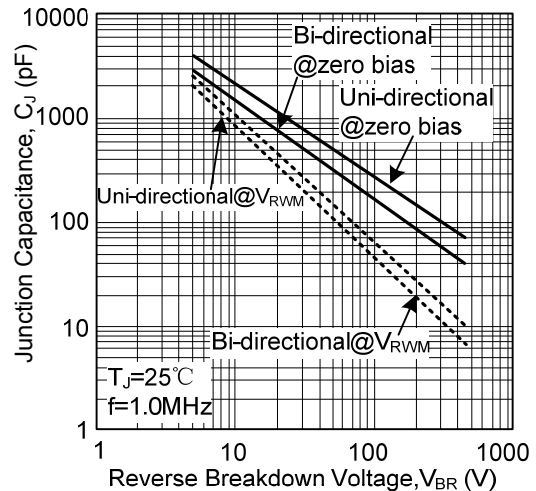


Fig 6. Typical Junction Capacitance



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