

### Features

- For Surface Mount Applications in Order to Optimize Board Space
- Fast Response Time: Typical Less Than 1.0ps From 0 volts to  $V_B$  Minimum
- Low Inductance
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates Compliant. See Ordering Information)
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMBJ220CAL for 5% Tolerance

### Mechanical Data

- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Positive End( Cathode) Except Bi-directional Types

### Maximum Ratings

- Operating Junction Temperature Range:  $-55^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$
- Storage Temperature Range:  $-55^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$
- Thermal Resistance :  $20^{\circ}\text{C}/\text{W}$  Junction to Lead
- Thermal Resistance :  $25^{\circ}\text{C}/\text{W}$  Junction to Case

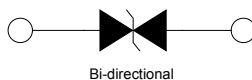
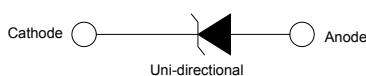
### Electrical Characteristics @ $25^{\circ}\text{C}$ Unless Otherwise Specified

Peak Pulse Power Surge Current on 10/1000 $\mu\text{s}$ Waveform	$I_{PP}$	See the Table	Note 3
Peak Pulse Power Dissipation	$P_{PP}$	600W	Note 4,5
Steady State Power Dissipation	$P_{M(AV)}$	5.0W	Note 5

**NOTES:**

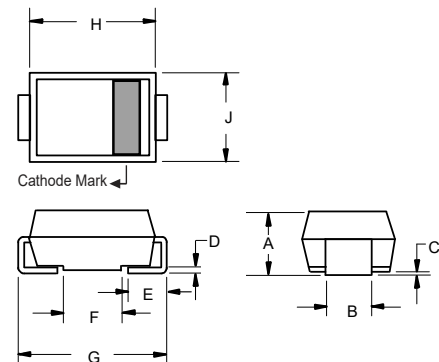
1. Halogen free "Green"products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.
3. Non-repetitive Current Pulse, Per Fig.3 and Derated Above  $T_A=25^{\circ}\text{C}$  Per Fig.4.
4. Mounted on 5.0mm<sup>2</sup> Copper Pads to Each Terminal.
5. Power Dissipation, on Infinite Heat Sink at  $T_L=75^{\circ}\text{C}$ .

**Pin Configuration:**



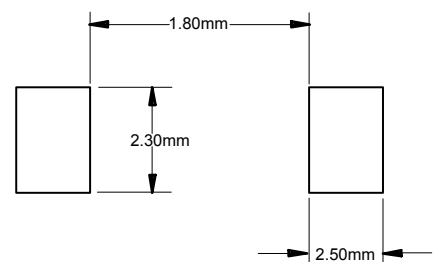
## 600 Watt TVS 220 to 440 Volts

### SMB (DO-214AA)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

**Suggested Solder Pad Layout**



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER		REVERSE STAND-OFF VOLTAGE $V_{WM}$	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$	PEAK PULSE CURRENT $I_{PP}$	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$	MARKING CODE	
			(VOLTS)	MIN	MAX				$I_T$ (mA)	(VOLTS)
UNI-POLAR	BI-POLAR	(VOLTS)	MIN	MAX	$I_T$ (mA)	(VOLTS)	(AMPS)	( $\mu$ A)	UNI	BI
SMBJ220AL	SMBJ220CAL	220	246	272	1	356	1.7	1	PXL	EXL
SMBJ250AL	SMBJ250CAL	250	279	309	1	405	1.5	1	PZL	EZL
SMBJ300AL	SMBJ300CAL	300	335	371	1	486	1.3	1	QEL	FEL
SMBJ350AL	SMBJ350CAL	350	391	432	1	567	1.1	1	QGL	FGL
SMBJ400AL	SMBJ400CAL	400	447	494	1	648	0.9	1	QKL	FKL
SMBJ440AL	SMBJ440CAL	440	492	543	1	713	0.9	1	QML	FML

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

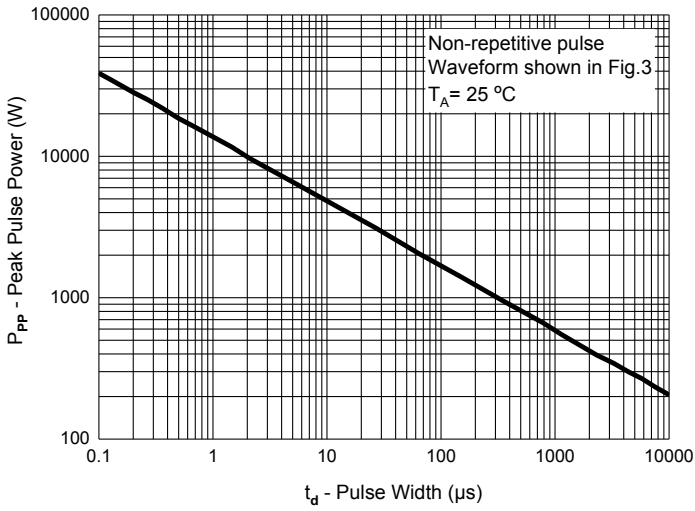


Fig. 2 - Typical Junction Capacitance

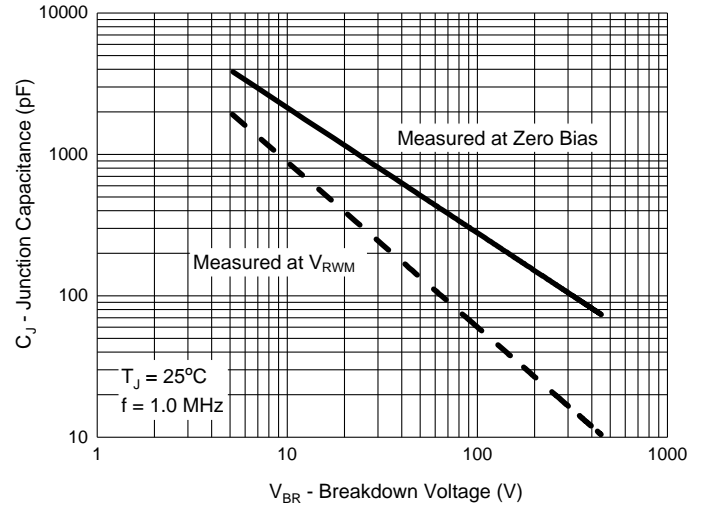


Fig. 3 - Pulse Waveform

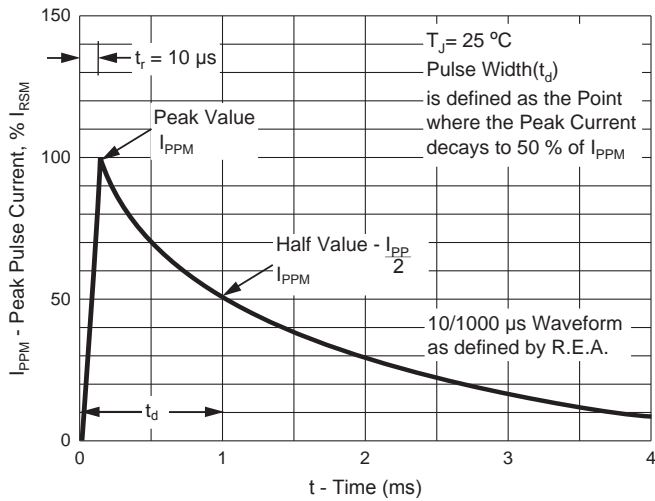
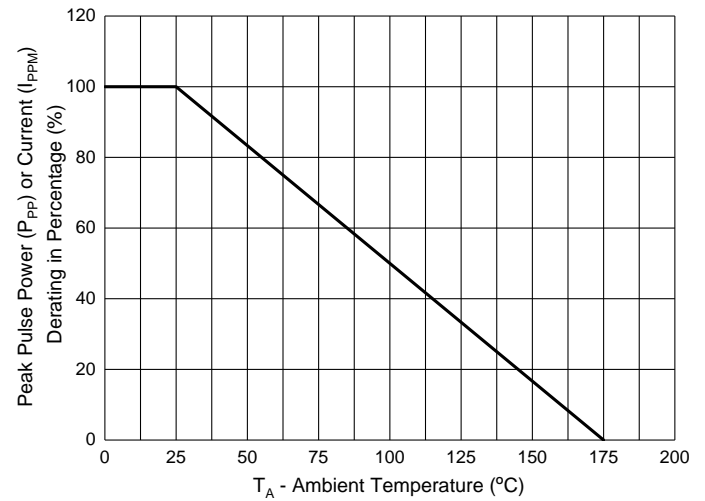


Fig. 4 - Pulse Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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