

Surface Mount Uni/Bi-Directional TVS Diodes

Peak Pulse Power- 3000 W
Reverse Stand Off Voltage- 12 to 75 V

Description

This 3.0SMBJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- For surface mounted applications
- Low profile package
- 3000W Peak pulse power capability at 10/1000 μ s waveform
- Excellent clamping capability
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min
- High temperature soldering: 260 $^{\circ}$ C/10s

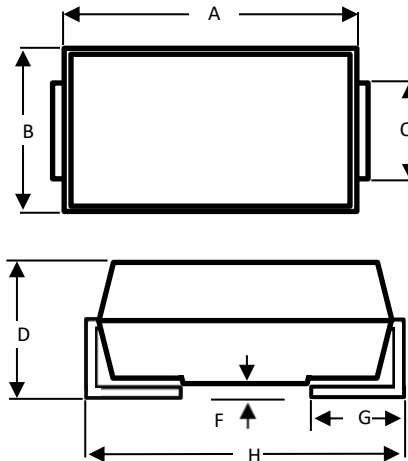
Mechanical Data

- Case:SMB(DO-214AA)package
- Case material: "green" molding compound
- UL flammability classification rating 94V-0
- Weight: 0.10grams

Applications

TVS devices are ideal for the protection of I/O Interfaces, Vcc bus and other vulnerable circuits used in telecom, computer, industrial and consumer electronic applications.

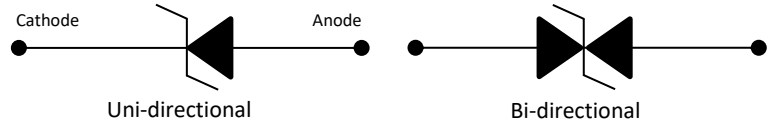
Package Outline Dimensions



SMB Package		
Dim	Min	Max
A	4.22	4.70
B	3.40	3.94
C	1.90	2.10
D	1.95	2.60
F	-	0.23
G	0.90	1.42
H	5.21	5.59

All Dimensions in mm

Device Schematic



Ordering Information

- Package :SMB(DO-214AA)
- Reel Size :13 (inches)
- Quantity Per Reel :3Kpcs
- Quantity Per Box :6Kpcs
- Quantity Per Carton :48Kpcs

Maximum Ratings (@TA = +25 $^{\circ}$ C, unless otherwise specified.)

Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25 $^{\circ}$ C by 10/1000us Waveform (Note 1)	P _{PP}	3000	W
Power Dissipation on Infinite Heat Sink at TL=75 $^{\circ}$ C	P _{M(AV)}	5	W
Operating Temperature Range	T _j	-55 to +125	$^{\circ}$ C
Storage Temperature Range	T _{STG}	-55 to +150	$^{\circ}$ C

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above T_j(initial) =25 $^{\circ}$ C per Fig.1

**Electrical Characteristics (@T_A = 25°C, unless otherwise specified.)**

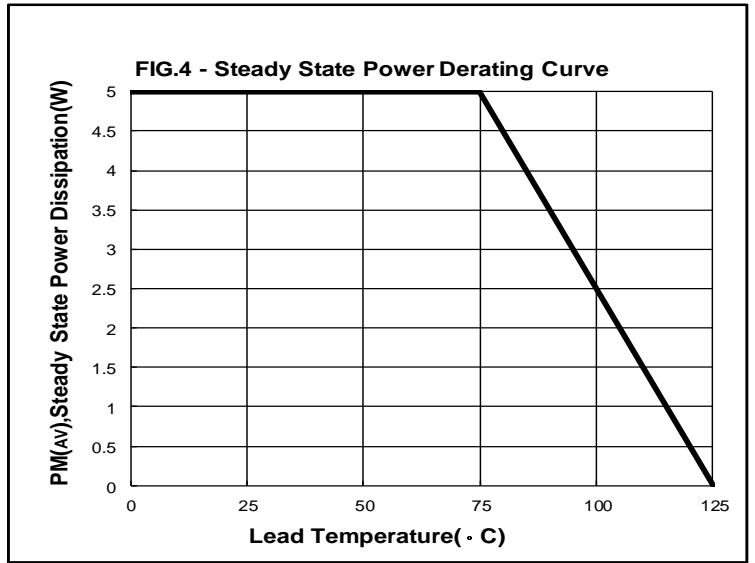
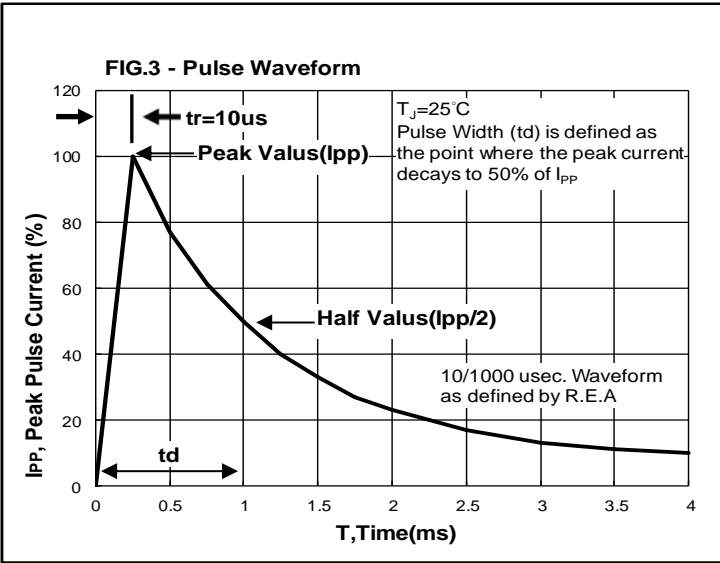
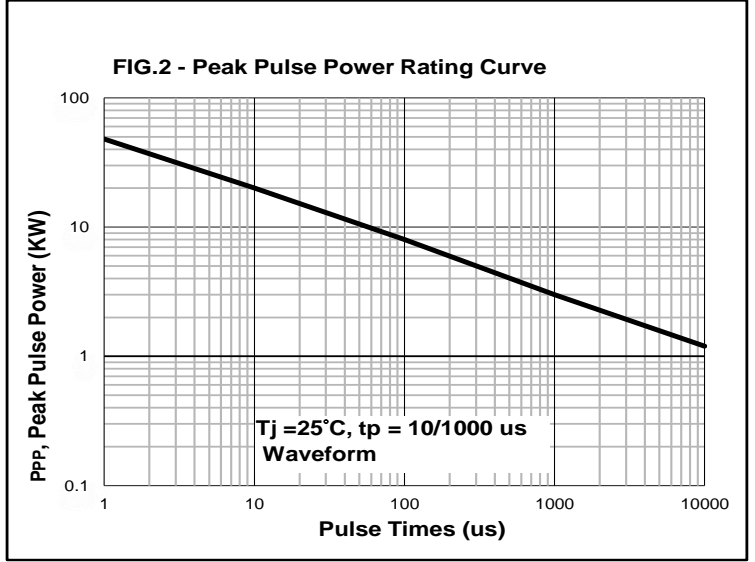
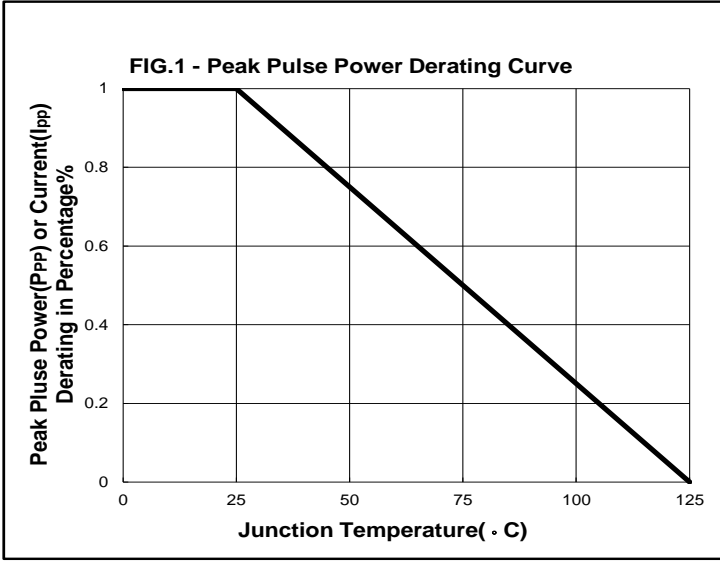
Part Number		Marking Code		Reverse Working Voltage V _{RWM} (V)	Reverse Breakdown Voltage V _B (V)			Reverse Leakage (Max) I _R (μ A) @V _R	Reverse Clamping Voltage (Max) V _c (V) @I _{PP}	Peak Pulse Current (Max) I _{PP} (A)
					Min.	Max.	@I _T (mA)			
Uni.	Bi.	Uni.	Bi.							
3.0SMBJ12A	3.0SMBJ12CA	3.0SMBJ12A	3.0SMBJ12CA	12	13.3	14.7	1	800	19.9	150.7
3.0SMBJ13A	3.0SMBJ13CA	3.0SMBJ13A	3.0SMBJ13CA	13	14.4	15.9	1	500	21.5	139.5
3.0SMBJ14A	3.0SMBJ14CA	3.0SMBJ14A	3.0SMBJ14CA	14	15.6	17.2	1	200	23.2	129.3
3.0SMBJ15A	3.0SMBJ15CA	3.0SMBJ15A	3.0SMBJ15CA	15	16.7	18.5	1	200	24.4	122.9
3.0SMBJ16A	3.0SMBJ16CA	3.0SMBJ16A	3.0SMBJ16CA	16	17.8	19.7	1	100	26.0	115.3
3.0SMBJ17A	3.0SMBJ17CA	3.0SMBJ17A	3.0SMBJ17CA	17	18.9	20.9	1	50	27.6	108.7
3.0SMBJ18A	3.0SMBJ18CA	3.0SMBJ18A	3.0SMBJ18CA	18	20.0	22.1	1	20	29.2	102.7
3.0SMBJ20A	3.0SMBJ20CA	3.0SMBJ20A	3.0SMBJ20CA	20	22.2	24.5	1	10	32.4	92.6
3.0SMBJ22A	3.0SMBJ22CA	3.0SMBJ22A	3.0SMBJ22CA	22	24.4	26.9	1	2	35.5	84.5
3.0SMBJ24A	3.0SMBJ24CA	3.0SMBJ24A	3.0SMBJ24CA	24	26.7	29.5	1	2	38.9	77.1
3.0SMBJ26A	3.0SMBJ26CA	3.0SMBJ26A	3.0SMBJ26CA	26	28.9	31.9	1	2	42.1	71.2
3.0SMBJ28A	3.0SMBJ28CA	3.0SMBJ28A	3.0SMBJ28CA	28	31.1	34.4	1	2	45.4	66.1
3.0SMBJ30A	3.0SMBJ30CA	3.0SMBJ30A	3.0SMBJ30CA	30	33.3	36.8	1	2	48.4	62.0
3.0SMBJ33A	3.0SMBJ33CA	3.0SMBJ33A	3.0SMBJ33CA	33	36.7	40.6	1	2	53.3	56.3
3.0SMBJ36A	3.0SMBJ36CA	3.0SMBJ36A	3.0SMBJ36CA	36	40.0	44.2	1	2	58.1	51.6
3.0SMBJ40A	3.0SMBJ40CA	3.0SMBJ40A	3.0SMBJ40CA	40	44.4	49.1	1	2	64.5	46.5
3.0SMBJ43A	3.0SMBJ43CA	3.0SMBJ43A	3.0SMBJ43CA	43	47.8	52.8	1	2	69.4	43.2
3.0SMBJ45A	3.0SMBJ45CA	3.0SMBJ45A	3.0SMBJ45CA	45	50.0	55.3	1	2	72.7	41.2
3.0SMBJ48A	3.0SMBJ48CA	3.0SMBJ48A	3.0SMBJ48CA	48	53.3	58.9	1	2	77.4	38.7
3.0SMBJ51A	3.0SMBJ51CA	3.0SMBJ51A	3.0SMBJ51CA	51	56.7	62.7	1	2	82.4	36.4
3.0SMBJ54A	3.0SMBJ54CA	3.0SMBJ54A	3.0SMBJ54CA	54	60.0	66.3	1	2	87.1	34.4
3.0SMBJ58A	3.0SMBJ58CA	3.0SMBJ58A	3.0SMBJ58CA	58	64.4	71.2	1	2	93.6	32.0
3.0SMBJ60A	3.0SMBJ60CA	3.0SMBJ60A	3.0SMBJ60CA	60	66.7	73.7	1	2	96.8	31.0
3.0SMBJ64A	3.0SMBJ64CA	3.0SMBJ64A	3.0SMBJ64CA	64	71.1	78.6	1	2	103	29.1
3.0SMBJ70A	3.0SMBJ70CA	3.0SMBJ70A	3.0SMBJ70CA	70	77.8	86.0	1	2	113	26.5
3.0SMBJ75A	3.0SMBJ75CA	3.0SMBJ75A	3.0SMBJ75CA	75	83.3	92.1	1	2	121	24.8

Note:

1. Suffix "A" denotes 5% tolerance device.
2. Add suffix "CA" after part number to specify bi-directional devices.
3. The IR limit is double for bi-directional devices.



Rating and Characteristic Curves





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