



Surface Mount Uni/Bi-Directional TVS Diodes

Peak Pulse Power - 1000 W
Reverse Breakdown Voltage - 5 to 220 V

Description

The 1.0SMBJ 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
- 1000W Peak pulse power capability at 10/1000µs waveform
- Excellent clamping capability
- Typical IR less than 1µA above 10V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min

Mechanical Data

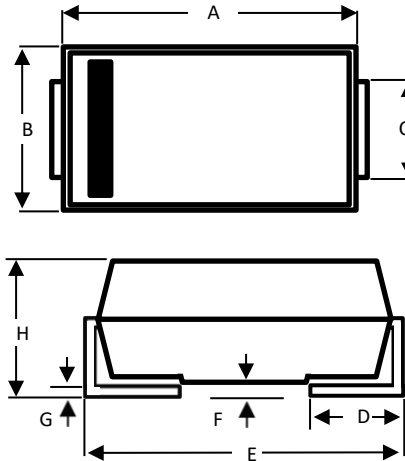
- Case:SMB(DO-214AA)package
- Case material: "green" molding compound
- UL flammability classification rating 94V-0
- Polarity : by cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Weight: 0.07grams

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited

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.

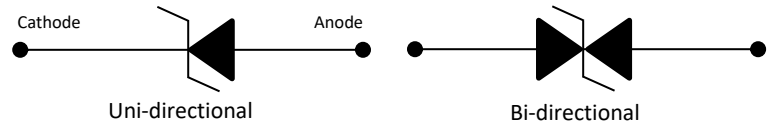
Package Outline Dimensions



SMB Package		
Dim	Min	Max
A	4.22	4.70
B	3.40	3.94
C	1.90	2.10
D	0.90	1.42
E	5.21	5.59
F	-	0.23
G	0.15	0.25
H	1.95	2.60

All Dimensions in mm

Device Schematic



Ordering Information

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

Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000us Waveform	PPP	1000	W
Steady State Power Dissipation at TL=75°C	PM(AV)	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	IFSM	100	A
Operating Junction Temperature Range	Tj	-55 to +150	° C
Storage Temperature Range	TSTG	-55 to +150	° C



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

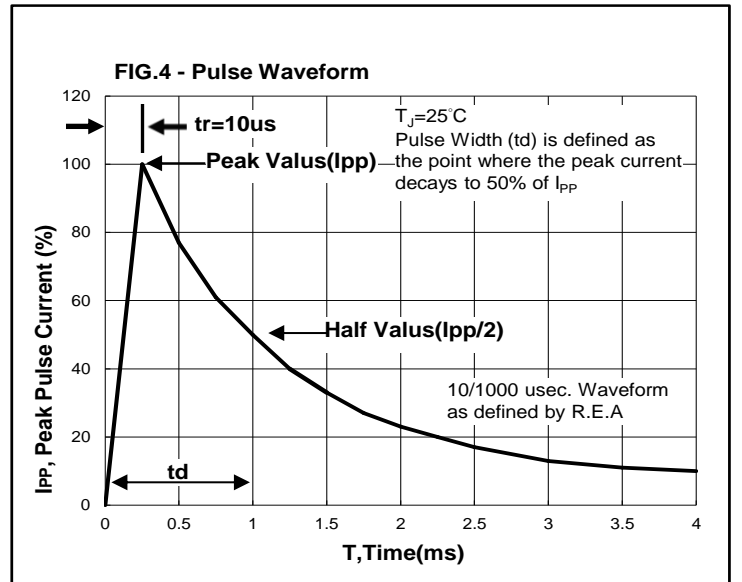
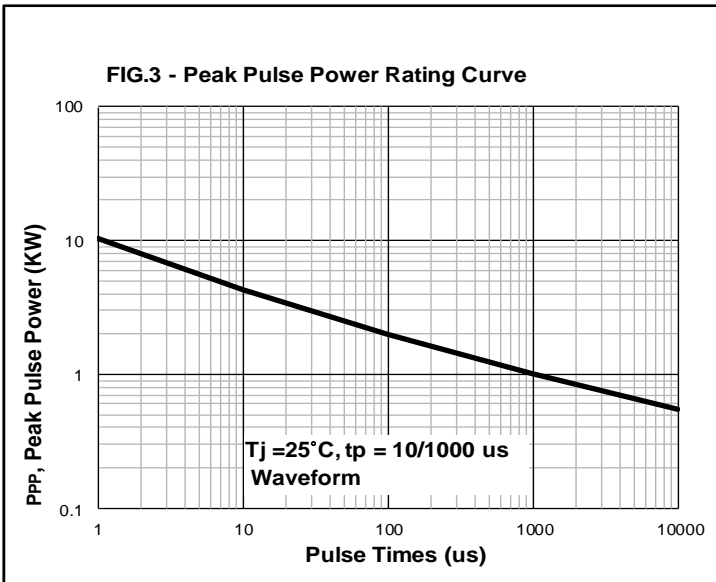
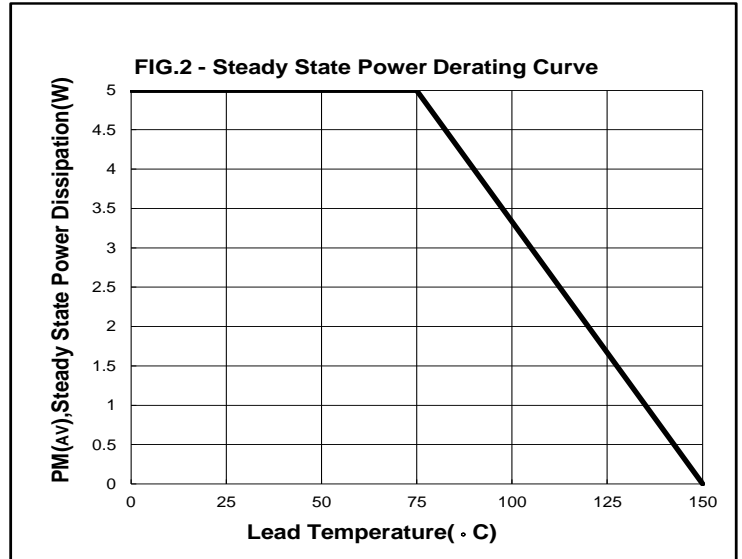
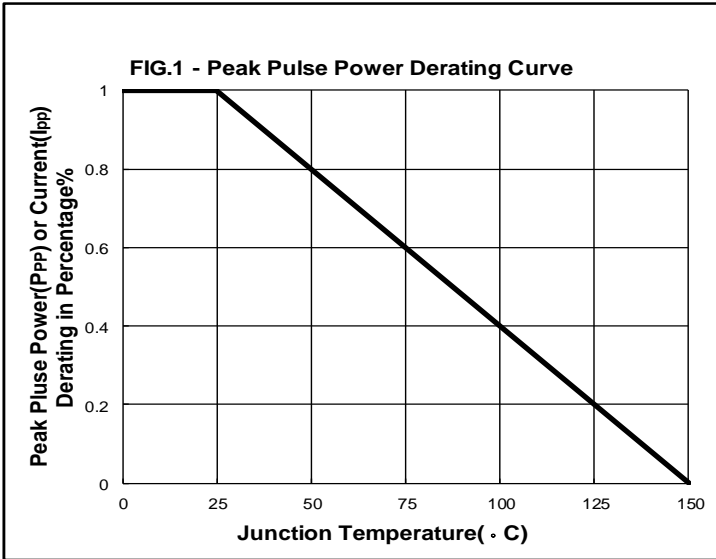
Part Number		Marking Code		Reverse Working Voltage VRWM(V)	Reverse Breakdown Voltage VB(V)			Reverse Leakage (Max) IR(μA) @VR	Reverse Clamping Voltage (Max) VC(V) @IPP	Peak Pulse Current (Max) IPP(A)
Uni.	Bi.	Uni.	Bi.		Min.	Max.	@IT(mA)			
1.0SMBJ5.0A	1.0SMBJ5.0CA	1.0SMBJ5.0A	1.0SMBJ5.0CA	5.0	6.40	7.00	10	800	9.2	108.7
1.0SMBJ6.0A	1.0SMBJ6.0CA	1.0SMBJ6.0A	1.0SMBJ6.0CA	6.0	6.67	7.37	10	800	10.3	97.09
1.0SMBJ6.5A	1.0SMBJ6.5CA	1.0SMBJ6.5A	1.0SMBJ6.5CA	6.5	7.22	7.98	10	500	11.2	89.29
1.0SMBJ7.0A	1.0SMBJ7.0CA	1.0SMBJ7.0A	1.0SMBJ7.0CA	7.0	7.78	8.60	10	200	12.0	83.34
1.0SMBJ7.5A	1.0SMBJ7.5CA	1.0SMBJ7.5A	1.0SMBJ7.5CA	7.5	8.33	9.21	1	100	12.9	77.52
1.0SMBJ8.0A	1.0SMBJ8.0CA	1.0SMBJ8.0A	1.0SMBJ8.0CA	8.0	8.89	9.83	1	50	13.6	73.53
1.0SMBJ8.5A	1.0SMBJ8.5CA	1.0SMBJ8.5A	1.0SMBJ8.5CA	8.5	9.44	10.40	1	20	14.4	69.45
1.0SMBJ9.0A	1.0SMBJ9.0CA	1.0SMBJ9.0A	1.0SMBJ9.0CA	9.0	10.00	11.10	1	10	15.4	64.94
1.0SMBJ10A	1.0SMBJ10CA	1.0SMBJ10A	1.0SMBJ10CA	10	11.10	12.30	1	5	17.0	58.83
1.0SMBJ11A	1.0SMBJ11CA	1.0SMBJ11A	1.0SMBJ11CA	11	12.20	13.50	1	1	18.2	54.95
1.0SMBJ12A	1.0SMBJ12CA	1.0SMBJ12A	1.0SMBJ12CA	12	13.30	14.70	1	1	19.9	50.26
1.0SMBJ13A	1.0SMBJ13CA	1.0SMBJ13A	1.0SMBJ13CA	13	14.40	15.90	1	1	21.5	46.52
1.0SMBJ14A	1.0SMBJ14CA	1.0SMBJ14A	1.0SMBJ14CA	14	15.60	17.20	1	1	23.2	43.11
1.0SMBJ15A	1.0SMBJ15CA	1.0SMBJ15A	1.0SMBJ15CA	15	16.70	18.50	1	1	24.4	40.99
1.0SMBJ16A	1.0SMBJ16CA	1.0SMBJ16A	1.0SMBJ16CA	16	17.80	19.70	1	1	26.0	38.47
1.0SMBJ17A	1.0SMBJ17CA	1.0SMBJ17A	1.0SMBJ17CA	17	18.90	20.90	1	1	27.6	36.24
1.0SMBJ18A	1.0SMBJ18CA	1.0SMBJ18A	1.0SMBJ18CA	18	20.00	22.10	1	1	29.2	34.25
1.0SMBJ20A	1.0SMBJ20CA	1.0SMBJ20A	1.0SMBJ20CA	20	22.20	24.50	1	1	32.4	30.87
1.0SMBJ22A	1.0SMBJ22CA	1.0SMBJ22A	1.0SMBJ22CA	22	24.40	26.90	1	1	35.5	28.17
1.0SMBJ24A	1.0SMBJ24CA	1.0SMBJ24A	1.0SMBJ24CA	24	26.70	29.50	1	1	38.9	25.71
1.0SMBJ26A	1.0SMBJ26CA	1.0SMBJ26A	1.0SMBJ26CA	26	28.90	31.90	1	1	42.1	23.76
1.0SMBJ28A	1.0SMBJ28CA	1.0SMBJ28A	1.0SMBJ28CA	28	31.10	34.40	1	1	45.4	22.03
1.0SMBJ30A	1.0SMBJ30CA	1.0SMBJ30A	1.0SMBJ30CA	30	33.30	36.80	1	1	48.4	20.67
1.0SMBJ33A	1.0SMBJ33CA	1.0SMBJ33A	1.0SMBJ33CA	33	36.70	40.60	1	1	53.3	18.77
1.0SMBJ36A	1.0SMBJ36CA	1.0SMBJ36A	1.0SMBJ36CA	36	40.00	44.20	1	1	58.1	17.22
1.0SMBJ40A	1.0SMBJ40CA	1.0SMBJ40A	1.0SMBJ40CA	40	44.40	49.10	1	1	64.5	15.75
1.0SMBJ43A	1.0SMBJ43CA	1.0SMBJ43A	1.0SMBJ43CA	43	47.80	52.80	1	1	69.4	14.41
1.0SMBJ45A	1.0SMBJ45CA	1.0SMBJ45A	1.0SMBJ45CA	45	50.00	55.30	1	1	72.7	13.76
1.0SMBJ48A	1.0SMBJ48CA	1.0SMBJ48A	1.0SMBJ48CA	48	53.30	58.90	1	1	77.4	12.92
1.0SMBJ51A	1.0SMBJ51CA	1.0SMBJ51A	1.0SMBJ51CA	51	56.70	62.70	1	1	82.4	12.14
1.0SMBJ54A	1.0SMBJ54CA	1.0SMBJ54A	1.0SMBJ54CA	54	60.00	66.30	1	1	87.1	11.40
1.0SMBJ58A	1.0SMBJ58CA	1.0SMBJ58A	1.0SMBJ58CA	58	64.40	71.20	1	1	93.6	10.69
1.0SMBJ60A	1.0SMBJ60CA	1.0SMBJ60A	1.0SMBJ60CA	60	66.70	73.70	1	1	96.8	10.34
1.0SMBJ64A	1.0SMBJ64CA	1.0SMBJ64A	1.0SMBJ64CA	64	71.10	78.60	1	1	103	9.71
1.0SMBJ70A	1.0SMBJ70CA	1.0SMBJ70A	1.0SMBJ70CA	70	77.80	86.00	1	1	113	8.85
1.0SMBJ75A	1.0SMBJ75CA	1.0SMBJ75A	1.0SMBJ75CA	75	83.30	92.10	1	1	121	8.27
1.0SMBJ78A	1.0SMBJ78CA	1.0SMBJ78A	1.0SMBJ78CA	78	86.70	95.80	1	1	126	7.94
1.0SMBJ85A	1.0SMBJ85CA	1.0SMBJ85A	1.0SMBJ85CA	85	94.40	104	1	1	137	7.30
1.0SMBJ90A	1.0SMBJ90CA	1.0SMBJ90A	1.0SMBJ90CA	90	100	111	1	1	146	6.85
1.0SMBJ100A	1.0SMBJ100CA	1.0SMBJ100A	1.0SMBJ100CA	100	111	123	1	1	162	6.18
1.0SMBJ110A	1.0SMBJ110CA	1.0SMBJ110A	1.0SMBJ110CA	110	122	135	1	1	177	5.65
1.0SMBJ120A	1.0SMBJ120CA	1.0SMBJ120A	1.0SMBJ120CA	120	133	147	1	1	193	5.19
1.0SMBJ130A	1.0SMBJ130CA	1.0SMBJ130A	1.0SMBJ130CA	130	144	159	1	1	209	4.79
1.0SMBJ150A	1.0SMBJ150CA	1.0SMBJ150A	1.0SMBJ150CA	150	167	185	1	1	243	4.12
1.0SMBJ160A	1.0SMBJ160CA	1.0SMBJ160A	1.0SMBJ160CA	160	178	197	1	1	259	3.87
1.0SMBJ170A	1.0SMBJ170CA	1.0SMBJ170A	1.0SMBJ170CA	170	189	209	1	1	275	3.64
1.0SMBJ180A	1.0SMBJ180CA	1.0SMBJ180A	1.0SMBJ180CA	180	201	222	1	1	292	3.43
1.0SMBJ190A	1.0SMBJ190CA	1.0SMBJ190A	1.0SMBJ190CA	190	209	233	1	1	308	3.25
1.0SMBJ200A	1.0SMBJ200CA	1.0SMBJ200A	1.0SMBJ200CA	200	224	247	1	1	324	3.09
1.0SMBJ210A	1.0SMBJ210CA	1.0SMBJ210A	1.0SMBJ210CA	210	237	263	1	1	340	2.95
1.0SMBJ220A	1.0SMBJ220CA	1.0SMBJ220A	1.0SMBJ220CA	220	246	272	1	1	356	2.81

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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