

**Surface Mount
Uni/Bi-Directional TVS Diodes****Description**

The 5.0SMDJ 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
- 5000W Peak pulse power capability at 10/1000 μ s waveform
- Excellent clamping capability
- Typical IR less than 5 μ A above 20V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min

- High temperature soldering: 260°C/10s

Mechanical Data

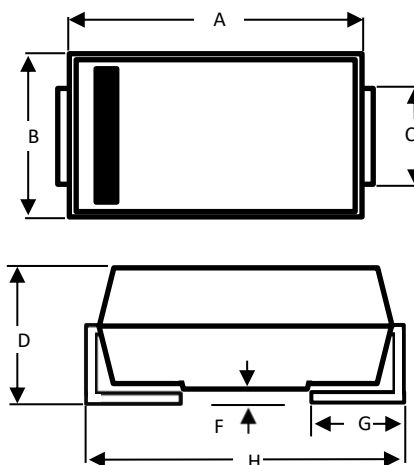
- Case: SMC(DO-214AB) package
- Case material: "green" molding compound
- UL flammability classification rating 94V-0
- Polarity : by cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Weight: 0.28grams

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

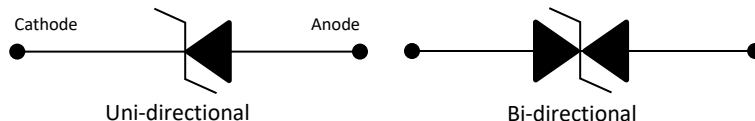
Applications

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.

Peak Pulse Power - 5000 W
Reverse Stand Off Voltage - 12 to 190 V

Package Outline Dimensions

SMC Package		
Dim	Min	Max
A	6.60	7.11
B	5.59	6.20
C	2.75	3.20
D	2.06	2.75
F	0.051	0.203
G	0.76	1.52
H	7.71	8.13
All Dimensions in mm		

Device Schematic**Ordering Information**

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

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

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C by 10/1000 μ s Waveform (Note 1)	P _{PP}	5000	W
Power Dissipation on Infinite Heat Sink at TL=50°C	P _{M(AV)}	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	I _{FSM}	300	A
Operating Temperature Range	T _j	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Note:

1. Non-repetitive current pulse, per Fig.4 and derated above T_j(initial) = 25°C per Fig.1
2. For unidirectional units only

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)			
5.0SMDJ12A	5.0SMDJ12CA	5.0SMDJ12A	5.0SMDJ12CA	12	13.3	14.7	1	800	19.9	252
5.0SMDJ13A	5.0SMDJ13CA	5.0SMDJ13A	5.0SMDJ13CA	13	14.4	15.9	1	500	21.5	233
5.0SMDJ14A	5.0SMDJ14CA	5.0SMDJ14A	5.0SMDJ14CA	14	15.6	17.2	1	200	23.2	216
5.0SMDJ15A	5.0SMDJ15CA	5.0SMDJ15A	5.0SMDJ15CA	15	16.7	18.5	1	100	24.4	205
5.0SMDJ16A	5.0SMDJ16CA	5.0SMDJ16A	5.0SMDJ16CA	16	17.8	19.7	1	50	26.0	193
5.0SMDJ17A	5.0SMDJ17CA	5.0SMDJ17A	5.0SMDJ17CA	17	18.9	20.9	1	20	27.6	181
5.0SMDJ18A	5.0SMDJ18CA	5.0SMDJ18A	5.0SMDJ18CA	18	20.0	22.1	1	10	29.2	172
5.0SMDJ20A	5.0SMDJ20CA	5.0SMDJ20A	5.0SMDJ20CA	20	22.2	24.5	1	5	32.4	155
5.0SMDJ22A	5.0SMDJ22CA	5.0SMDJ22A	5.0SMDJ22CA	22	24.4	26.9	1	5	35.5	141
5.0SMDJ24A	5.0SMDJ24CA	5.0SMDJ24A	5.0SMDJ24CA	24	26.7	29.5	1	5	38.9	129
5.0SMDJ26A	5.0SMDJ26CA	5.0SMDJ26A	5.0SMDJ26CA	26	28.9	31.9	1	5	42.1	119
5.0SMDJ28A	5.0SMDJ28CA	5.0SMDJ28A	5.0SMDJ28CA	28	31.1	34.4	1	5	45.4	110
5.0SMDJ30A	5.0SMDJ30CA	5.0SMDJ30A	5.0SMDJ30CA	30	33.3	36.8	1	5	48.4	103
5.0SMDJ33A	5.0SMDJ33CA	5.0SMDJ33A	5.0SMDJ33CA	33	36.7	40.6	1	5	53.3	93.9
5.0SMDJ36A	5.0SMDJ36CA	5.0SMDJ36A	5.0SMDJ36CA	36	40.0	44.2	1	5	58.1	86.1
5.0SMDJ40A	5.0SMDJ40CA	5.0SMDJ40A	5.0SMDJ40CA	40	44.4	49.1	1	5	64.5	77.6
5.0SMDJ43A	5.0SMDJ43CA	5.0SMDJ43A	5.0SMDJ43CA	43	47.8	52.8	1	5	69.4	72.1
5.0SMDJ45A	5.0SMDJ45CA	5.0SMDJ45A	5.0SMDJ45CA	45	50.0	55.3	1	5	72.7	68.8
5.0SMDJ48A	5.0SMDJ48CA	5.0SMDJ48A	5.0SMDJ48CA	48	53.3	58.9	1	5	77.4	64.7
5.0SMDJ51A	5.0SMDJ51CA	5.0SMDJ51A	5.0SMDJ51CA	51	56.7	62.7	1	5	82.4	60.7
5.0SMDJ54A	5.0SMDJ54CA	5.0SMDJ54A	5.0SMDJ54CA	54	60.0	66.3	1	5	87.1	57.5
5.0SMDJ58A	5.0SMDJ58CA	5.0SMDJ58A	5.0SMDJ58CA	58	64.4	71.2	1	5	93.6	53.5
5.0SMDJ60A	5.0SMDJ60CA	5.0SMDJ60A	5.0SMDJ60CA	60	66.7	73.7	1	5	96.8	51.7
5.0SMDJ64A	5.0SMDJ64CA	5.0SMDJ64A	5.0SMDJ64CA	64	71.1	78.6	1	5	103	48.6
5.0SMDJ70A	5.0SMDJ70CA	5.0SMDJ70A	5.0SMDJ70CA	70	77.8	86.0	1	5	113	44.3
5.0SMDJ75A	5.0SMDJ75CA	5.0SMDJ75A	5.0SMDJ75CA	75	83.3	92.1	1	5	121	41.4
5.0SMDJ78A	5.0SMDJ78CA	5.0SMDJ78A	5.0SMDJ78CA	78	86.7	95.8	1	5	126	39.7
5.0SMDJ85A	5.0SMDJ85CA	5.0SMDJ85A	5.0SMDJ85CA	85	94.4	104.0	1	5	137	36.5
5.0SMDJ90A	5.0SMDJ90CA	5.0SMDJ90A	5.0SMDJ90CA	90	100	111	1	5	146	34.3
5.0SMDJ100A	5.0SMDJ100CA	5.0SMDJ100A	5.0SMDJ100CA	100	111	123	1	5	162	30.9
5.0SMDJ110A	5.0SMDJ110CA	5.0SMDJ110A	5.0SMDJ110CA	110	122	135	1	5	177	28.3
5.0SMDJ120A	5.0SMDJ120CA	5.0SMDJ120A	5.0SMDJ120CA	120	133	147	1	5	193	26.0
5.0SMDJ130A	5.0SMDJ130CA	5.0SMDJ130A	5.0SMDJ130CA	130	144	159	1	5	209	24.0
5.0SMDJ150A	5.0SMDJ150CA	5.0SMDJ150A	5.0SMDJ150CA	150	167	185	1	5	243	20.6
5.0SMDJ160A	5.0SMDJ160CA	5.0SMDJ160A	5.0SMDJ160CA	160	178	197	1	5	259	19.3
5.0SMDJ170A	5.0SMDJ170CA	5.0SMDJ170A	5.0SMDJ170CA	170	189	209	1	5	275	18.2
5.0SMDJ180A	5.0SMDJ180CA	5.0SMDJ180A	5.0SMDJ180CA	180	201	222	1	5	292	17.5
5.0SMDJ190A	5.0SMDJ190CA	5.0SMDJ190A	5.0SMDJ190CA	190	211	233	1	5	308	16.5

Note:

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



Rating and Characteristic Curves

FIG.1 - Peak Pulse Power Derating Curve

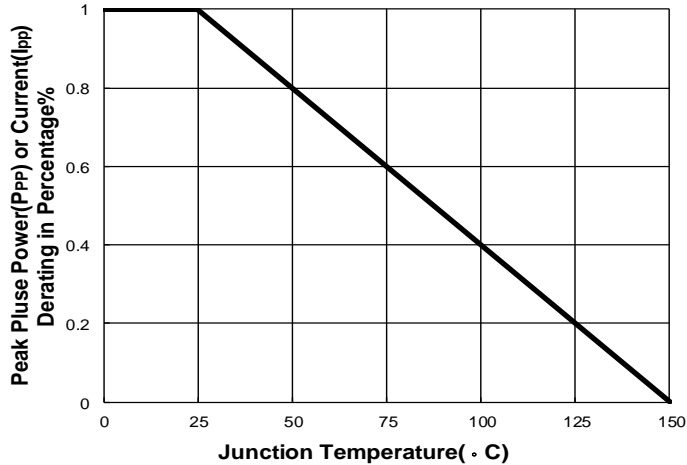


FIG.2 - Steady State Power Derating Curve

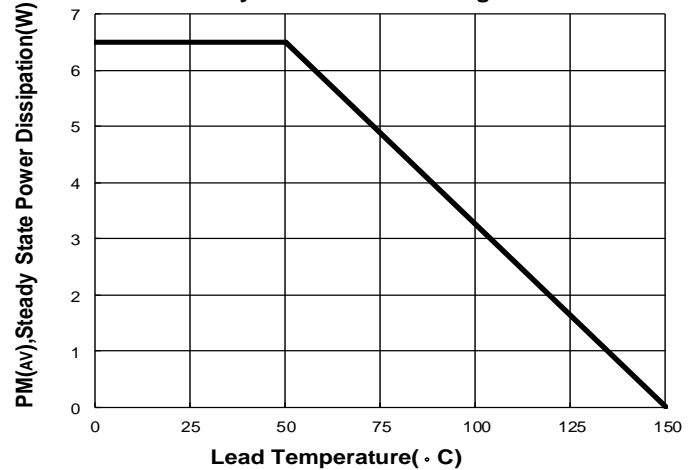


FIG.3 - Maximun Non-Repetitive Forward Surge Current Uni-Directional Only

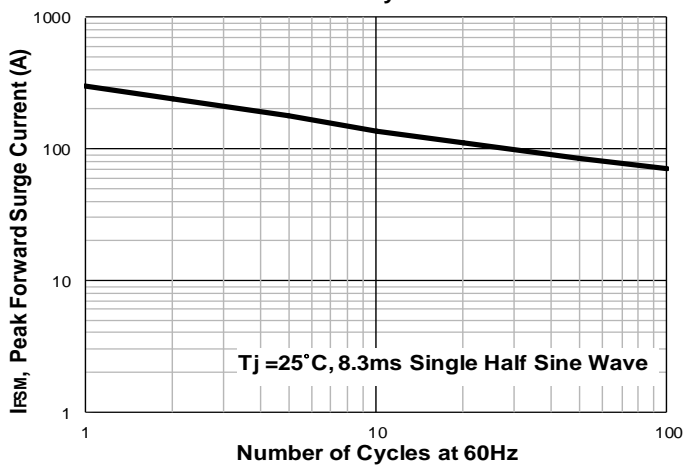


FIG.4 - Pulse Waveform

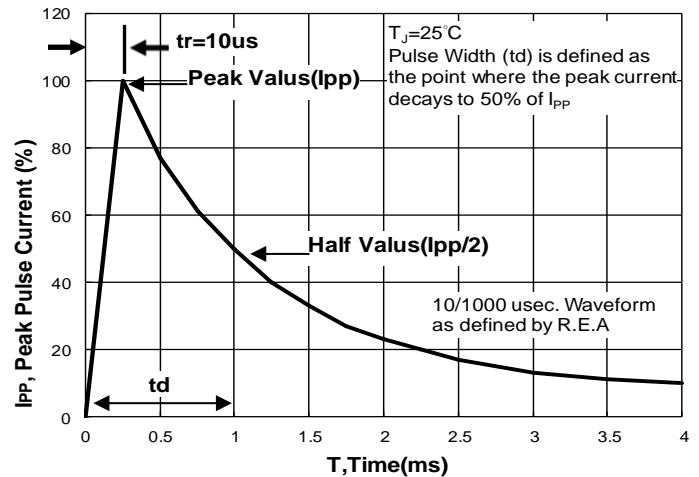


FIG.5 - Typical Junction Capacitance

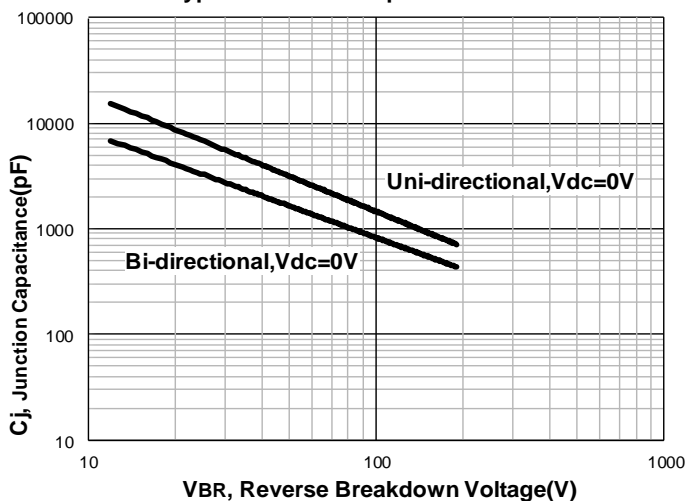
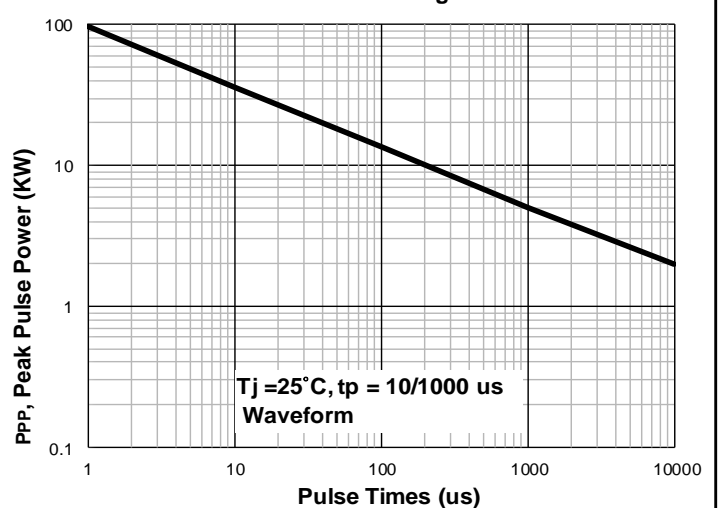


FIG.6 - Peak Pulse Power Rating Curve





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