

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

The SMDJ 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
- Typical IR less than 1 μ A above 10V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min

- High temperature soldering: 260°C/10s

Mechanical Data

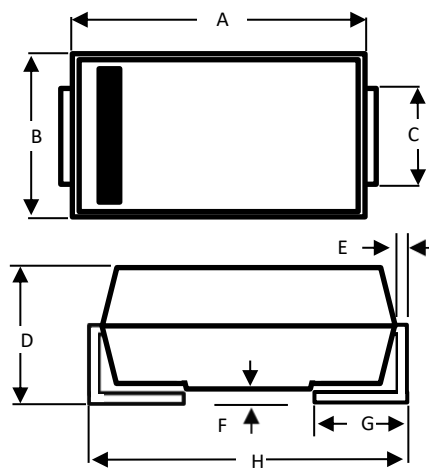
- Case: SMC(DO-214AB) package
- Case material: "green" molding compound
- UL flammability classification rating 94V-0
- Polarity : by cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Weight: 0.28grams

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

Applications

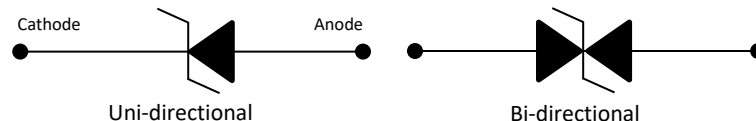
TVS devices are ideal for the protection of I/O Interfaces, Vcc bus and other vulnerable circuits used in telecom, computer, industrial and consumer electronic applications.

Peak Pulse Power - 3000 W
Reverse Stand Off Voltage - 5 to 440 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	2.62
E	0.15	0.31
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 10/1000us Waveform (Note 1)	P _{PP}	3000	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
Maximum Instantaneous Forward Voltage at 30A (Note 2)	V _F	5	V
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)			
SMDJ5.0A	SMDJ5.0CA	SMDJ5.0A	SMDJ5.0CA	5.0	6.40	7.00	10	800	9.2	326.1
SMDJ6.0A	SMDJ6.0CA	SMDJ6.0A	SMDJ6.0CA	6.0	6.67	7.37	10	800	10.3	291.0
SMDJ6.5A	SMDJ6.5CA	SMDJ6.5A	SMDJ6.5CA	6.5	7.22	7.98	10	500	11.2	267.9
SMDJ7.0A	SMDJ7.0CA	SMDJ7.0A	SMDJ7.0CA	7.0	7.78	8.60	10	200	12.0	250.0
SMDJ7.5A	SMDJ7.5CA	SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.21	1	100	12.9	232.6
SMDJ8.0A	SMDJ8.0CA	SMDJ8.0A	SMDJ8.0CA	8.0	8.89	9.83	1	50	13.6	220.6
SMDJ8.5A	SMDJ8.5CA	SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.40	1	20	14.4	208.3
SMDJ9.0A	SMDJ9.0CA	SMDJ9.0A	SMDJ9.0CA	9.0	10.0	11.1	1	5	15.4	194.8
SMDJ10A	SMDJ10CA	SMDJ10A	SMDJ10CA	10	11.1	12.3	1	1	17.0	176.5
SMDJ11A	SMDJ11CA	SMDJ11A	SMDJ11CA	11	12.2	13.5	1	1	18.2	164.8
SMDJ12A	SMDJ12CA	SMDJ12A	SMDJ12CA	12	13.3	14.7	1	1	19.9	150.8
SMDJ13A	SMDJ13CA	SMDJ13A	SMDJ13CA	13	14.4	15.9	1	1	21.5	139.5
SMDJ14A	SMDJ14CA	SMDJ14A	SMDJ14CA	14	15.6	17.2	1	1	23.2	129.3
SMDJ15A	SMDJ15CA	SMDJ15A	SMDJ15CA	15	16.7	18.5	1	1	24.4	123.0
SMDJ16A	SMDJ16CA	SMDJ16A	SMDJ16CA	16	17.8	19.7	1	1	26.0	115.4
SMDJ17A	SMDJ17CA	SMDJ17A	SMDJ17CA	17	18.9	20.9	1	1	27.6	108.7
SMDJ18A	SMDJ18CA	SMDJ18A	SMDJ18CA	18	20.0	22.1	1	1	29.2	102.7
SMDJ20A	SMDJ20CA	SMDJ20A	SMDJ20CA	20	22.2	24.5	1	1	32.4	92.6
SMDJ22A	SMDJ22CA	SMDJ22A	SMDJ22CA	22	24.4	26.9	1	1	35.5	84.5
SMDJ24A	SMDJ24CA	SMDJ24A	SMDJ24CA	24	26.7	29.5	1	1	38.9	77.1
SMDJ26A	SMDJ26CA	SMDJ26A	SMDJ26CA	26	28.9	31.9	1	1	42.1	71.3
SMDJ28A	SMDJ28CA	SMDJ28A	SMDJ28CA	28	31.1	34.4	1	1	45.4	66.1
SMDJ30A	SMDJ30CA	SMDJ30A	SMDJ30CA	30	33.3	36.8	1	1	48.4	62.0
SMDJ33A	SMDJ33CA	SMDJ33A	SMDJ33CA	33	36.7	40.6	1	1	53.3	56.3
SMDJ36A	SMDJ36CA	SMDJ36A	SMDJ36CA	36	40.0	44.2	1	1	58.1	51.6
SMDJ40A	SMDJ40CA	SMDJ40A	SMDJ40CA	40	44.4	49.1	1	1	64.5	46.5
SMDJ43A	SMDJ43CA	SMDJ43A	SMDJ43CA	43	47.8	52.8	1	1	69.4	43.2
SMDJ45A	SMDJ45CA	SMDJ45A	SMDJ45CA	45	50.0	55.3	1	1	72.7	41.3
SMDJ48A	SMDJ48CA	SMDJ48A	SMDJ48CA	48	53.3	58.9	1	1	77.4	38.8
SMDJ51A	SMDJ51CA	SMDJ51A	SMDJ51CA	51	56.7	62.7	1	1	82.4	36.4
SMDJ54A	SMDJ54CA	SMDJ54A	SMDJ54CA	54	60.0	66.3	1	1	87.1	34.4
SMDJ58A	SMDJ58CA	SMDJ58A	SMDJ58CA	58	64.4	71.2	1	1	93.6	32.1
SMDJ60A	SMDJ60CA	SMDJ60A	SMDJ60CA	60	66.7	73.7	1	1	96.8	31.0
SMDJ64A	SMDJ64CA	SMDJ64A	SMDJ64CA	64	71.1	78.6	1	1	103	29.1
SMDJ70A	SMDJ70CA	SMDJ70A	SMDJ70CA	70	77.8	86.0	1	1	113	26.5
SMDJ75A	SMDJ75CA	SMDJ75A	SMDJ75CA	75	83.3	92.1	1	1	121	24.8
SMDJ78A	SMDJ78CA	SMDJ78A	SMDJ78CA	78	86.7	95.8	1	1	126	23.8
SMDJ85A	SMDJ85CA	SMDJ85A	SMDJ85CA	85	94.4	104.0	1	1	137	21.9
SMDJ90A	SMDJ90CA	SMDJ90A	SMDJ90CA	90	100	111	1	1	146	20.5
SMDJ100A	SMDJ100CA	SMDJ100A	SMDJ100CA	100	111	123	1	1	162	18.5
SMDJ110A	SMDJ110CA	SMDJ110A	SMDJ110CA	110	122	135	1	1	177	16.9
SMDJ120A	SMDJ120CA	SMDJ120A	SMDJ120CA	120	133	147	1	1	193	15.5
SMDJ130A	SMDJ130CA	SMDJ130A	SMDJ130CA	130	144	159	1	1	209	14.4
SMDJ150A	SMDJ150CA	SMDJ150A	SMDJ150CA	150	167	185	1	1	243	12.3
SMDJ160A	SMDJ160CA	SMDJ160A	SMDJ160CA	160	178	197	1	1	259	11.6
SMDJ170A	SMDJ170CA	SMDJ170A	SMDJ170CA	170	189	209	1	1	275	10.9
SMDJ180A	SMDJ180CA	SMDJ180A	SMDJ180CA	180	201	222	1	1	292	10.3
SMDJ190A	SMDJ190CA	SMDJ190A	SMDJ190CA	190	211	233	1	1	308	9.7
SMDJ200A	SMDJ200CA	SMDJ200A	SMDJ200CA	200	224	247	1	1	324	9.3
SMDJ210A	SMDJ210CA	SMDJ210A	SMDJ210CA	210	237	263	1	1	340	8.8
SMDJ220A	SMDJ220CA	SMDJ220A	SMDJ220CA	220	246	272	1	1	356	8.4
SMDJ250A	SMDJ250CA	SMDJ250A	SMDJ250CA	250	279	309	1	1	405	7.8
SMDJ300A	SMDJ300CA	SMDJ300A	SMDJ300CA	300	335	371	1	1	486	6.5
SMDJ350A	SMDJ350CA	SMDJ350A	SMDJ350CA	350	391	432	1	1	567	5.5
SMDJ400A	SMDJ400CA	SMDJ400A	SMDJ400CA	400	447	494	1	1	648	4.8
SMDJ440A	SMDJ440CA	SMDJ440A	SMDJ440CA	440	492	543	1	1	713	4.4

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

FIG.1 - Peak Pulse Power Derating Curve

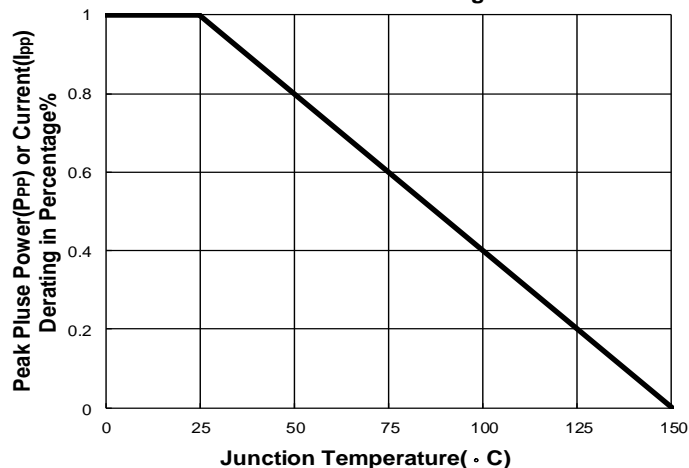


FIG.2 - Steady State Power Derating Curve

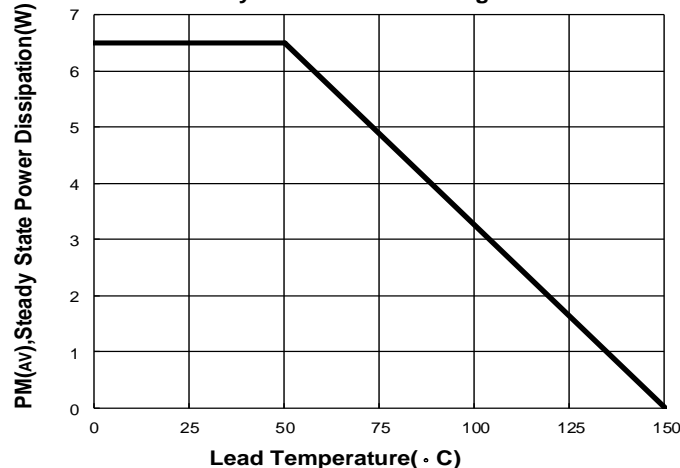


FIG.3 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

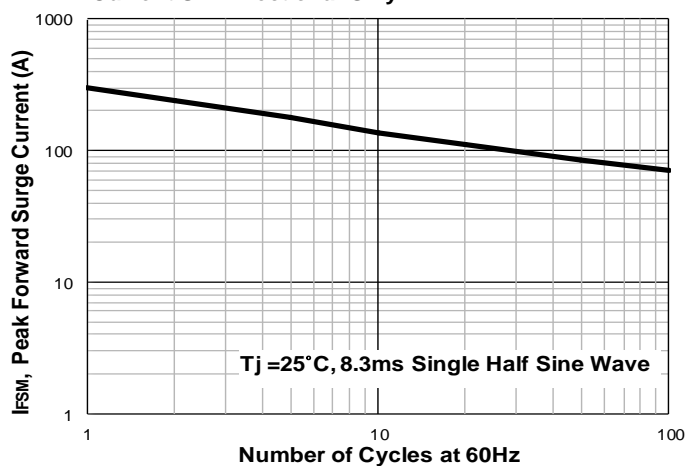


FIG.4 - Pulse Waveform

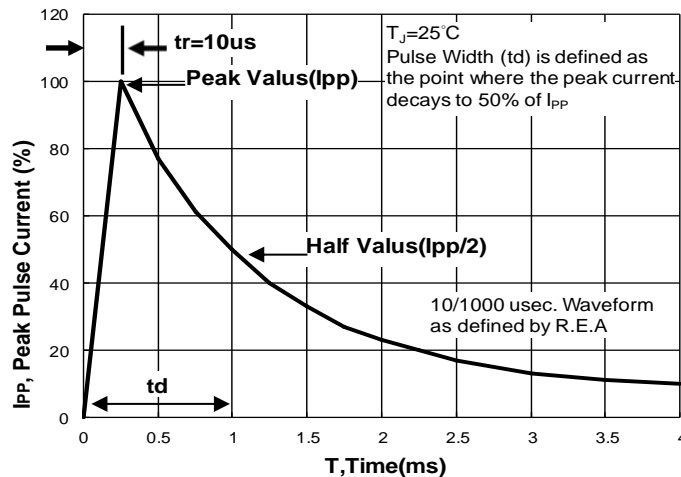


FIG.5 - Typical Junction Capacitance

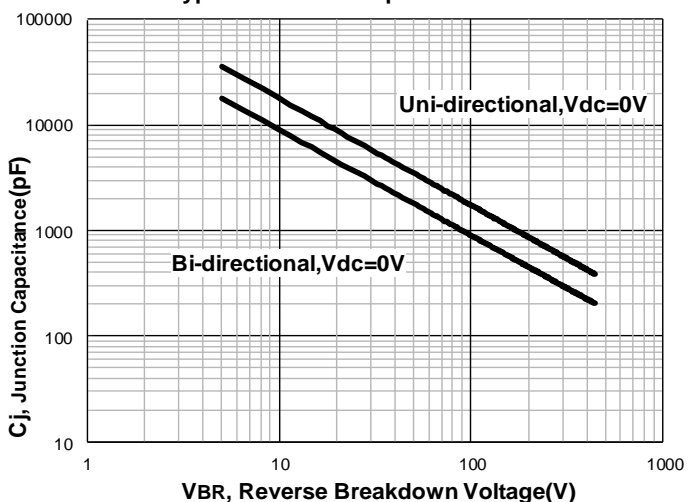
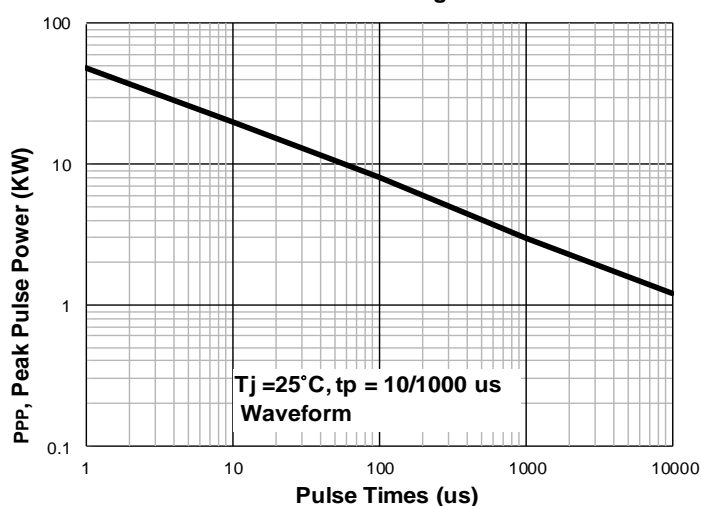


FIG.6 - Peak Pulse Power Rating Curve





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