



Surface Mount Uni/Bi-Directional TVS Diodes

Peak Pulse Power - 1500 W
Reverse Stand Off Voltage - 5 to 440 V

Description

The SMCJ 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
- 1500W Peak pulse power capability at 10/1000µs waveform
- Excellent clamping capability
- Typical IR less than 1uA above 10V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min
- High temperature soldering: 260°C/10s
- IEC 61000-4-2 (ESD) :±30kV(Contact) / ±30kV(Air)

Mechanical Data

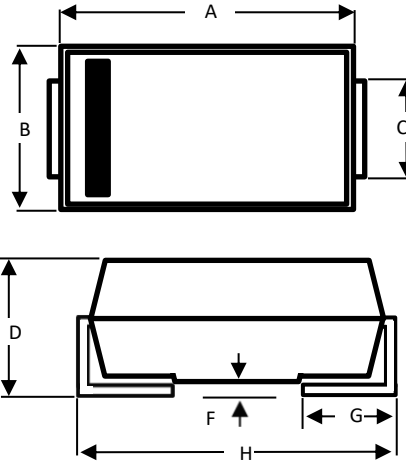
- Case:SMC(DO-214AB)package
- Case material: "green" molding compound
- UL flammability classification rating 94V-0
- Polarity : by cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Weight: 0.28grams

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.

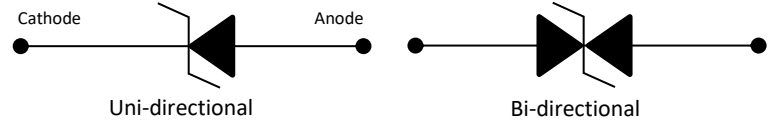
Package Outline Dimensions



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 10/1000us Waveform (Note 1)	PPp	1500	W
Power Dissipation on Infinite Heat Sink at TL=50°C	PM(AV)	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	IFSM	200	A
Maximum Instantaneous Forward Voltage at 30A (Note 2)	VF	5	V
Operating Temperature Range	Tj	-55 to +150	° C
Storage Temperature Range	TSTG	-55 to +150	° C

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

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

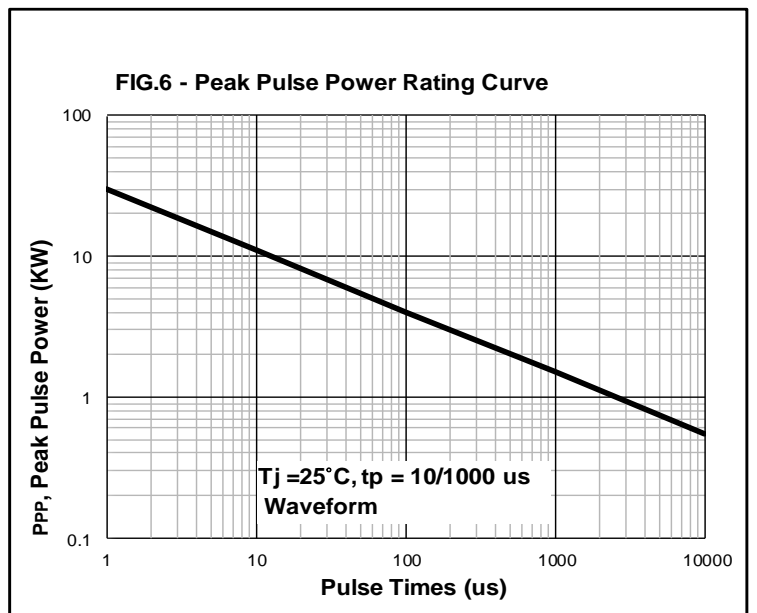
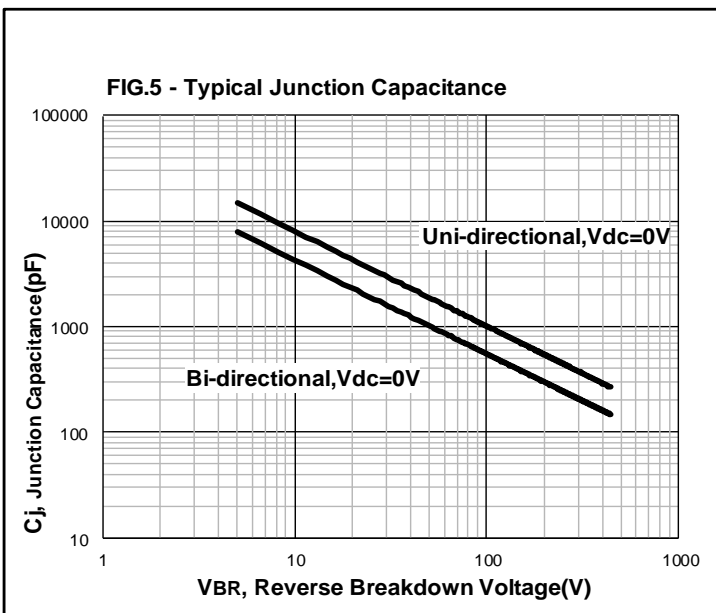
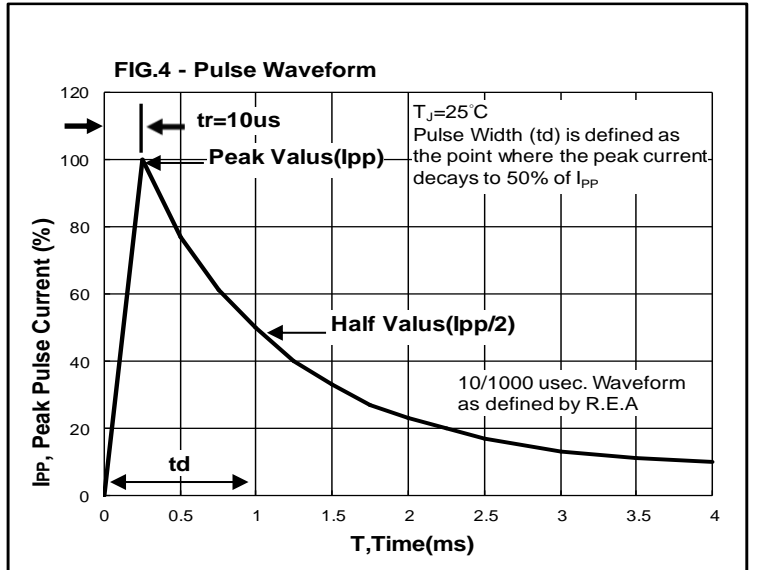
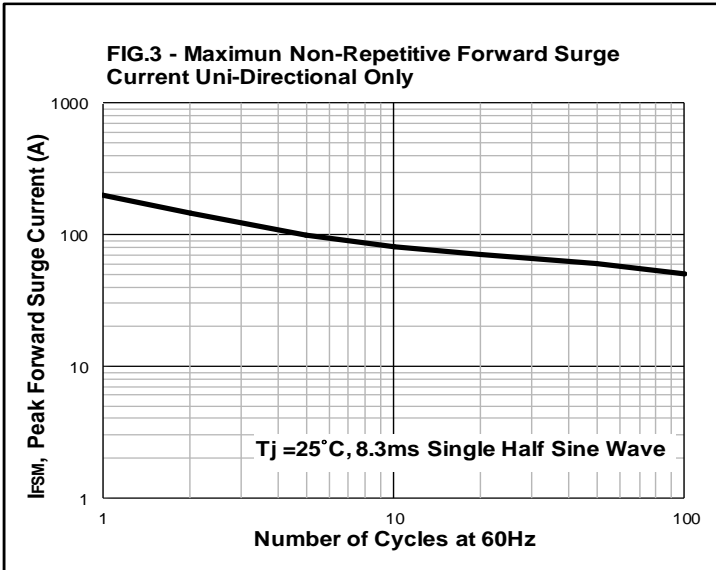
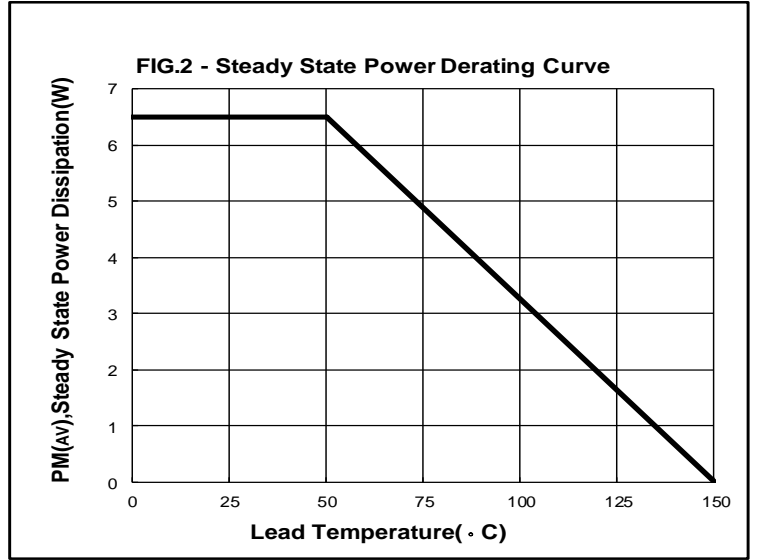
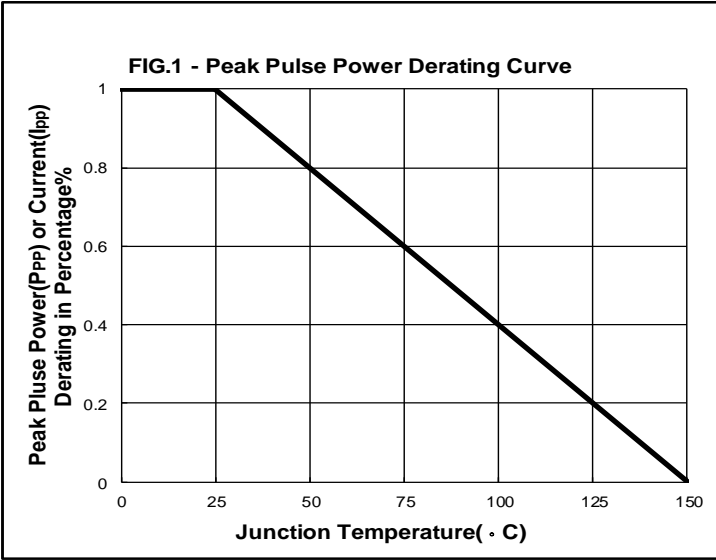
Part Number		Marking Code		Reverse Working Voltage V _{RWM} (V)	Reverse Breakdown Voltage V _B (V)			Reverse Leakage (Max) I _R (μ A) @V _R	Reverse Clamping Voltage (Max) V _c (V) @I _{PP}	Peak Pulse Current (Max) I _{PP} (A)
Uni.	Bi.	Uni.	Bi.		Min.	Max.	@I _T (mA)			
SMCJ5.0A	SMCJ5.0CA	SMCJ5.0A	SMCJ5.0CA	5.0	6.40	7.00	10	800	9.2	163.0
SMCJ6.0A	SMCJ6.0CA	SMCJ6.0A	SMCJ6.0CA	6.0	6.67	7.37	10	800	10.3	145.7
SMCJ6.5A	SMCJ6.5CA	SMCJ6.5A	SMCJ6.5CA	6.5	7.22	7.98	10	500	11.2	134.0
SMCJ7.0A	SMCJ7.0CA	SMCJ7.0A	SMCJ7.0CA	7.0	7.78	8.60	10	200	12.0	125.0
SMCJ7.5A	SMCJ7.5CA	SMCJ7.5A	SMCJ7.5CA	7.5	8.33	9.21	1	100	12.9	116.3
SMCJ8.0A	SMCJ8.0CA	SMCJ8.0A	SMCJ8.0CA	8.0	8.89	9.83	1	50	13.6	110.3
SMCJ8.5A	SMCJ8.5CA	SMCJ8.5A	SMCJ8.5CA	8.5	9.44	10.40	1	20	14.4	104.2
SMCJ9.0A	SMCJ9.0CA	SMCJ9.0A	SMCJ9.0CA	9.0	10.0	11.1	1	5	15.4	97.4
SMCJ10A	SMCJ10CA	SMCJ10A	SMCJ10CA	10	11.1	12.3	1	1	17.0	88.3
SMCJ11A	SMCJ11CA	SMCJ11A	SMCJ11CA	11	12.2	13.5	1	1	18.2	82.5
SMCJ12A	SMCJ12CA	SMCJ12A	SMCJ12CA	12	13.3	14.7	1	1	19.9	75.4
SMCJ13A	SMCJ13CA	SMCJ13A	SMCJ13CA	13	14.4	15.9	1	1	21.5	69.8
SMCJ14A	SMCJ14CA	SMCJ14A	SMCJ14CA	14	15.6	17.2	1	1	23.2	64.7
SMCJ15A	SMCJ15CA	SMCJ15A	SMCJ15CA	15	16.7	18.5	1	1	24.4	61.5
SMCJ16A	SMCJ16CA	SMCJ16A	SMCJ16CA	16	17.8	19.7	1	1	26.0	57.7
SMCJ17A	SMCJ17CA	SMCJ17A	SMCJ17CA	17	18.9	20.9	1	1	27.6	54.4
SMCJ18A	SMCJ18CA	SMCJ18A	SMCJ18CA	18	20.0	22.1	1	1	29.2	51.4
SMCJ20A	SMCJ20CA	SMCJ20A	SMCJ20CA	20	22.2	24.5	1	1	32.4	46.3
SMCJ22A	SMCJ22CA	SMCJ22A	SMCJ22CA	22	24.4	26.9	1	1	35.5	42.3
SMCJ24A	SMCJ24CA	SMCJ24A	SMCJ24CA	24	26.7	29.5	1	1	38.9	38.6
SMCJ26A	SMCJ26CA	SMCJ26A	SMCJ26CA	26	28.9	31.9	1	1	42.1	35.7
SMCJ28A	SMCJ28CA	SMCJ28A	SMCJ28CA	28	31.1	34.4	1	1	45.4	33.1
SMCJ30A	SMCJ30CA	SMCJ30A	SMCJ30CA	30	33.3	36.8	1	1	48.4	31.0
SMCJ33A	SMCJ33CA	SMCJ33A	SMCJ33CA	33	36.7	40.6	1	1	53.3	28.2
SMCJ36A	SMCJ36CA	SMCJ36A	SMCJ36CA	36	40.0	44.2	1	1	58.1	25.9
SMCJ40A	SMCJ40CA	SMCJ40A	SMCJ40CA	40	44.4	49.1	1	1	64.5	23.3
SMCJ43A	SMCJ43CA	SMCJ43A	SMCJ43CA	43	47.8	52.8	1	1	69.4	21.7
SMCJ45A	SMCJ45CA	SMCJ45A	SMCJ45CA	45	50.0	55.3	1	1	72.7	20.6
SMCJ48A	SMCJ48CA	SMCJ48A	SMCJ48CA	48	53.3	58.9	1	1	77.4	19.4
SMCJ51A	SMCJ51CA	SMCJ51A	SMCJ51CA	51	56.7	62.7	1	1	82.4	18.2
SMCJ54A	SMCJ54CA	SMCJ54A	SMCJ54CA	54	60.0	66.3	1	1	87.1	17.3
SMCJ58A	SMCJ58CA	SMCJ58A	SMCJ58CA	58	64.4	71.2	1	1	93.6	16.1
SMCJ60A	SMCJ60CA	SMCJ60A	SMCJ60CA	60	66.7	73.7	1	1	96.8	15.5
SMCJ64A	SMCJ64CA	SMCJ64A	SMCJ64CA	64	71.1	78.6	1	1	103	14.6
SMCJ70A	SMCJ70CA	SMCJ70A	SMCJ70CA	70	77.8	86.0	1	1	113	13.3
SMCJ75A	SMCJ75CA	SMCJ75A	SMCJ75CA	75	83.3	92.1	1	1	121	12.4
SMCJ78A	SMCJ78CA	SMCJ78A	SMCJ78CA	78	86.7	95.8	1	1	126	11.9
SMCJ85A	SMCJ85CA	SMCJ85A	SMCJ85CA	85	94.4	104.0	1	1	137	11.0
SMCJ90A	SMCJ90CA	SMCJ90A	SMCJ90CA	90	100	111	1	1	146	10.3
SMCJ100A	SMCJ100CA	SMCJ100A	SMCJ100CA	100	111	123	1	1	162	9.3
SMCJ110A	SMCJ110CA	SMCJ110A	SMCJ110CA	110	122	135	1	1	177	8.5
SMCJ120A	SMCJ120CA	SMCJ120A	SMCJ120CA	120	133	147	1	1	193	7.8
SMCJ130A	SMCJ130CA	SMCJ130A	SMCJ130CA	130	144	159	1	1	209	7.2
SMCJ150A	SMCJ150CA	SMCJ150A	SMCJ150CA	150	167	185	1	1	243	6.2
SMCJ160A	SMCJ160CA	SMCJ160A	SMCJ160CA	160	178	197	1	1	259	5.8
SMCJ170A	SMCJ170CA	SMCJ170A	SMCJ170CA	170	189	209	1	1	275	5.5
SMCJ180A	SMCJ180CA	SMCJ180A	SMCJ180CA	180	201	222	1	1	292	5.1
SMCJ190A	SMCJ190CA	SMCJ190A	SMCJ190CA	190	211	233	1	1	308	4.8
SMCJ200A	SMCJ200CA	SMCJ200A	SMCJ200CA	200	224	247	1	1	324	4.6
SMCJ210A	SMCJ210CA	SMCJ210A	SMCJ210CA	210	237	263	1	1	340	4.4
SMCJ220A	SMCJ220CA	SMCJ220A	SMCJ220CA	220	246	272	1	1	356	4.2
SMCJ250A	SMCJ250CA	SMCJ250A	SMCJ250CA	250	279	309	1	1	405	3.7
SMCJ300A	SMCJ300CA	SMCJ300A	SMCJ300CA	300	335	371	1	1	486	3.1
SMCJ350A	SMCJ350CA	SMCJ350A	SMCJ350CA	350	391	432	1	1	567	2.6
SMCJ400A	SMCJ400CA	SMCJ400A	SMCJ400CA	400	447	494	1	1	648	2.3
SMCJ440A	SMCJ440CA	SMCJ440A	SMCJ440CA	440	492	543	1	1	713	2.1

Note:

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



Rating and Characteristic Curves





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