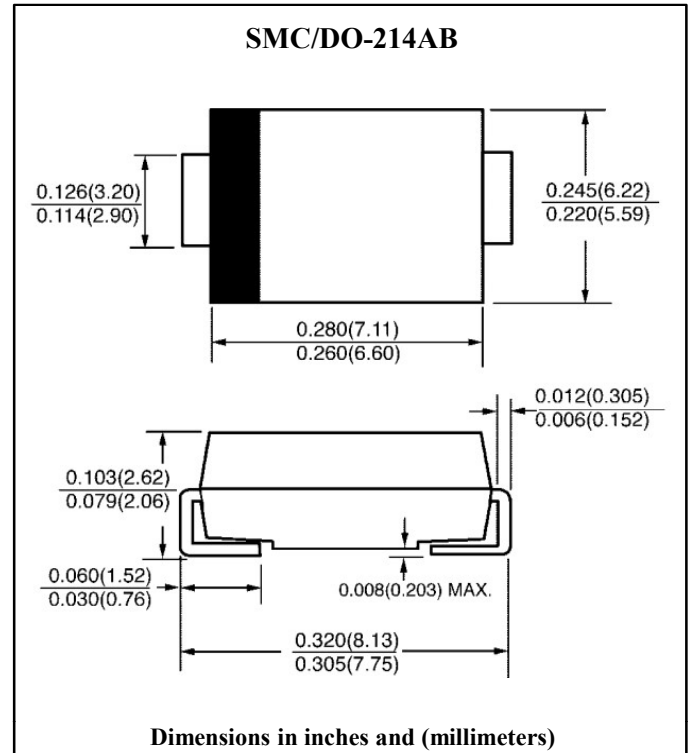
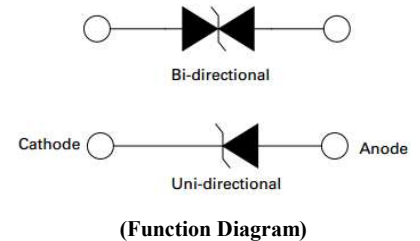
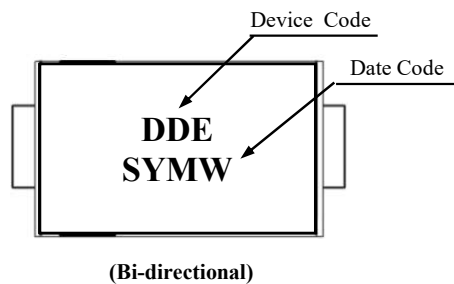
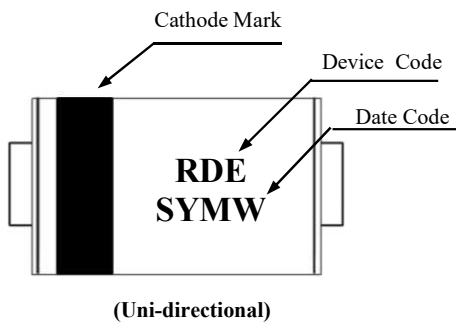


Surface Mount Transient Voltage Suppressor
Peak Pulse Power 3000W, Stand-off Voltage 5.0 to 220V
Features

- Plastics package has underwriters laboratory flammability classification 94V-0
- Low profile package with built-in strain relief for surface mounted application
- Low incremental surge resistance, excellent clamping capability
- 3000W peak pulse power capability with a 10/1000us wave-form, repetition rate (duty cycle):0.01%
- Very fast response time : <1ns
- High temperature soldering guaranteed : 250°C/10 seconds at terminals

Mechanical Data

- Case : JEDEC DO-214AB(SMC) molded plastic over passivated junction
- Terminals : Solder plated, solderable per MIL-STD-750, method 2026
- Polarity : For unidirectional types the color band denotes the cathode, which is positive with respect to the anode under normal TVS operation
- Weight : approx. 0.21grams


Marking

Devices for Bi-directional Applications

For bi-directional devices, use suffix C or CA (e.g. SMDJ5.0A, SMDJ5.0CA). Electrical characteristics apply in both directions

Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Rated Value	Unit	Remark
Peak Power Dissipation with a 10/1000us Waveform (Fig.1)	P _{PPM}	Minimum 3000	W	Note 1, 2
Peak Pulse Current with a 10/1000us Waveform	I _{PPM}	See next table	A	Note 1
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Uni-directional Only	I _{FSM}	300	A	Note 2
Typical Thermal Resistance	R _{th(j-a)}	75	°C/W	Note 3
	R _{th(j-l)}	15	°C/W	
Operating Temperature Range	T _J	-65 to +150	°C	
Storage Temperature Range	T _{STG}	-65 to +175	°C	

Note 1. Non-repetive current pulse, per Fig. 3 and derated above Ta=25°C, per Fig.2.

Note 2. Mounted on 0.31" × 0.31" (8.0mm × 8.0mm) copper pade to each terminal.

Note 3. Mounted on minimum recommended pad layout



Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified.)

Device Type	Device Marking Code		Breakdown Voltage $V_{(BR)}$ at $I_T^{(1)}$ (V)		Test Current I_T (mA)	Stand-off Voltage V_{WM} (V)	Maximum Reverse Leakage at $V_{WM} I_D^{(3)}$ (μ A)	Maximum Peak Pulse Surge Current $I_{PPM}^{(2)}$ (A)	Maximum Clamping Voltage at $I_{PPM} V_C$ (V)
	Uni	Bi	Min	Max					
SMDJ5.0A	RDE	DDE	6.40	7.00	10	5.0	800	326.1	9.20
SMDJ6.0A	RDG	DDG	6.67	7.37	10	6.0	800	291.3	10.3
SMDJ6.5A	RDK	DDK	7.22	7.98	10	6.5	500	267.9	11.2
SMDJ7.0A	PDM	DDM	7.78	8.60	10	7.0	200	250.0	12.0
SMDJ7.5A	PDP	DDP	8.33	9.21	1.0	7.5	100	232.6	12.9
SMDJ8.0A	PDR	DDR	8.89	9.83	1.0	8.0	50	220.6	13.6
SMDJ8.5A	PDT	DDT	9.44	10.4	1.0	8.5	20	208.3	14.4
SMDJ9.0A	PDV	DDV	10.0	11.1	1.0	9.0	10	194.8	15.4
SMDJ10A	PDX	DDX	11.1	12.3	1.0	10	5.0	176.5	17.0
SMDJ11A	PDZ	DDZ	12.2	13.5	1.0	11	2.0	164.8	18.2
SMDJ12A	PEE	DEE	13.3	14.7	1.0	12	2.0	150.8	19.9
SMDJ13A	PEG	DEG	14.4	15.9	1.0	13	2.0	139.5	21.5
SMDJ14A	PEK	DEK	15.6	17.2	1.0	14	2.0	129.3	23.2
SMDJ15A	PEM	DEM	16.7	18.5	1.0	15	2.0	123.0	24.4
SMDJ16A	PEP	DEP	17.8	19.7	1.0	16	2.0	115.4	26.0
SMDJ17A	PER	DER	18.9	20.9	1.0	17	2.0	108.7	27.6
SMDJ18A	PET	DET	20.0	22.1	1.0	18	2.0	102.7	29.2
SMDJ20A	PEV	DEV	22.2	24.5	1.0	20	2.0	92.6	32.4
SMDJ22A	PEX	DEX	24.4	26.9	1.0	22	2.0	84.5	35.5
SMDJ24A	PEZ	DEZ	26.7	29.5	1.0	24	2.0	77.1	38.9
SMDJ26A	PFE	DFE	28.9	31.9	1.0	26	2.0	71.3	42.1
SMDJ28A	PFG	DFG	31.1	34.4	1.0	28	2.0	66.1	45.4
SMDJ30A	PFK	BFK	33.3	36.8	1.0	30	2.0	62.0	48.4
SMDJ33A	PFM	DFM	36.7	40.6	1.0	33	2.0	56.3	53.3
SMDJ36A	PFP	DFP	40.0	44.2	1.0	36	2.0	51.6	58.1
SMDJ40A	PFR	DFR	44.4	49.1	1.0	40	2.0	46.5	64.5
SMDJ43A	PFT	DFT	47.8	52.8	1.0	43	2.0	43.2	69.4
SMDJ45A	PFV	DFV	50.0	55.3	1.0	45	2.0	41.3	72.7
SMDJ48A	PFX	DFX	53.3	58.9	1.0	48	2.0	38.8	77.4
SMDJ51A	PFZ	DFZ	56.7	62.7	1.0	51	2.0	36.4	82.4
SMDJ54A	RGE	DGE	60.0	66.3	1.0	54	2.0	34.4	87.1
SMDJ58A	PGG	DGG	64.4	71.2	1.0	58	2.0	32.1	93.6
SMDJ60A	PGK	DGK	66.7	73.7	1.0	60	2.0	31.0	96.8
SMDJ64A	PGM	DGM	71.1	78.6	1.0	64	2.0	29.1	103
SMDJ70A	PGP	DGP	77.8	86.0	1.0	70	2.0	26.5	113
SMDJ75A	PGR	DGR	83.3	92.1	1.0	75	2.0	24.8	121
SMDJ78A	PGT	DGT	86.7	95.8	1.0	78	2.0	23.8	126
SMDJ85A	PGV	DGV	94.4	104	1.0	85	2.0	21.9	137
SMDJ90A	PGX	DGX	100	111	1.0	90	2.0	20.5	146
SMDJ100A	PGZ	DGZ	111	123	1.0	100	2.0	18.5	162

Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified.)

Device Type	Device Marking Code		Breakdown Voltage $V_{(BR)}$ at $I_T^{(1)}$ (V)		Test Current I_T (mA)	Stand-off Voltage V_{WM} (V)	Maximum Reverse Leakage at $V_{WM} I_D$ (uA) ⁽³⁾	Maximum Peak Pulse Surge Current I_{PPM} (A) ⁽²⁾	Maximum Clamping Voltage at $I_{PPM} V_C$ (V)
	Uni	Bi	Min	Max					
SMDJ110A	PHE	DHE	122	135	1.0	110	2.0	16.9	177
SMDJ120A	PHG	DHG	133	147	1.0	120	2.0	15.5	193
SMDJ130A	PHK	DHK	144	159	1.0	130	2.0	14.4	209
SMDJ150A	PHM	DHM	167	185	1.0	150	2.0	12.3	243
SMDJ160A	PHP	DHP	178	197	1.0	160	2.0	11.6	259
SMDJ170A	PHR	DHR	189	209	1.0	170	2.0	10.9	275
SMDJ180A	PHT	DHT	198	230.4	1.0	180	2.0	10.3	292
SMDJ220A	PKE	DKE	242	281.6	1.0	220	2.0	8.4	356

Notes 1. $V_{(BR)}$ measured after I_T applied for 300us square wave pulse or equivalent

2. Surge current waveform per Fig.3 and derate per Fig.2

3. For bi-directional types having V_{WM} of 10 Volts and less, the I_D limit is doubled

Ratings and Characteristics Curves ($T_a=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

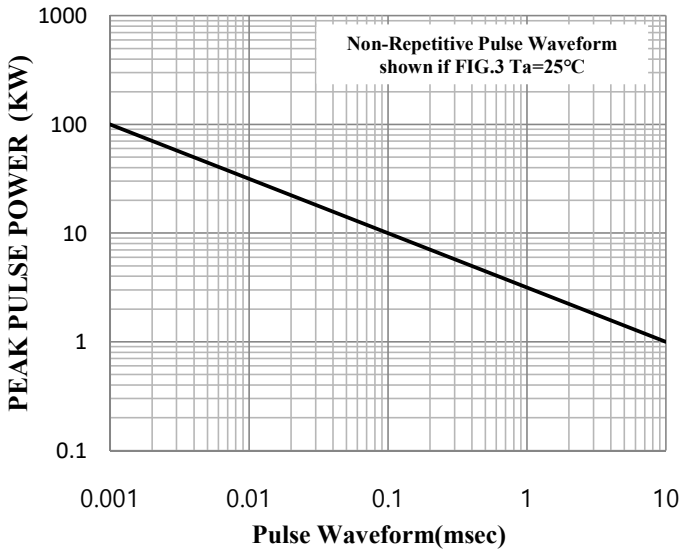


Fig. 2 Peak Pulse Power Derating Curve

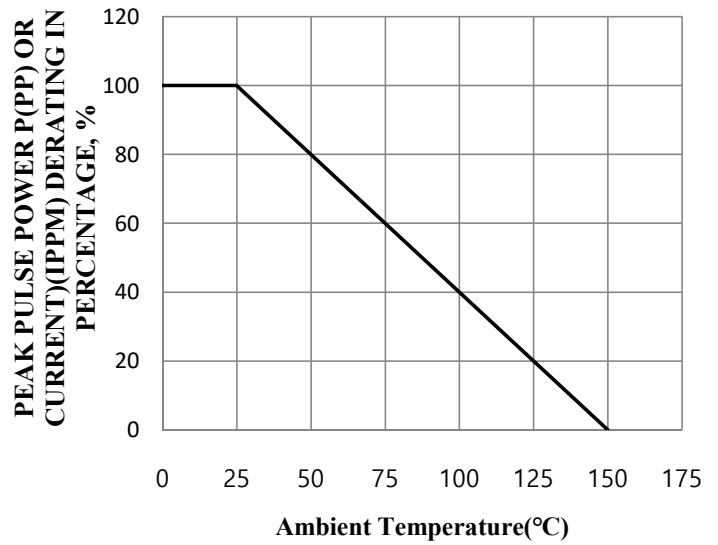


Fig. 3 Pulse Waveform

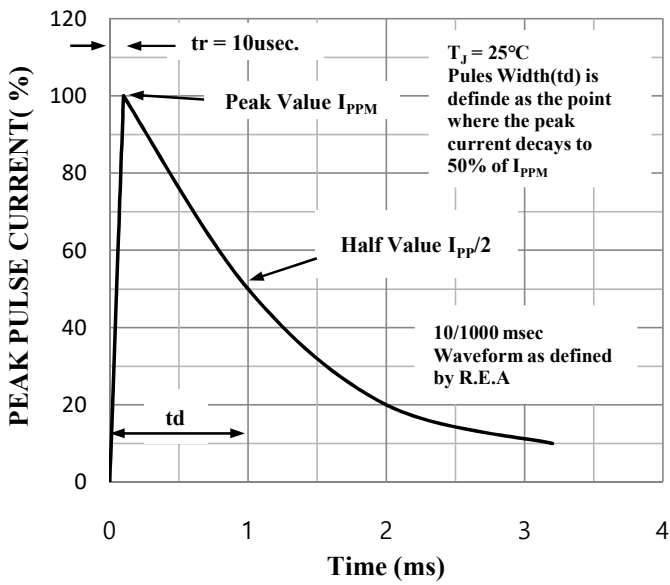


Fig. 4 Typical Junction Capacitance

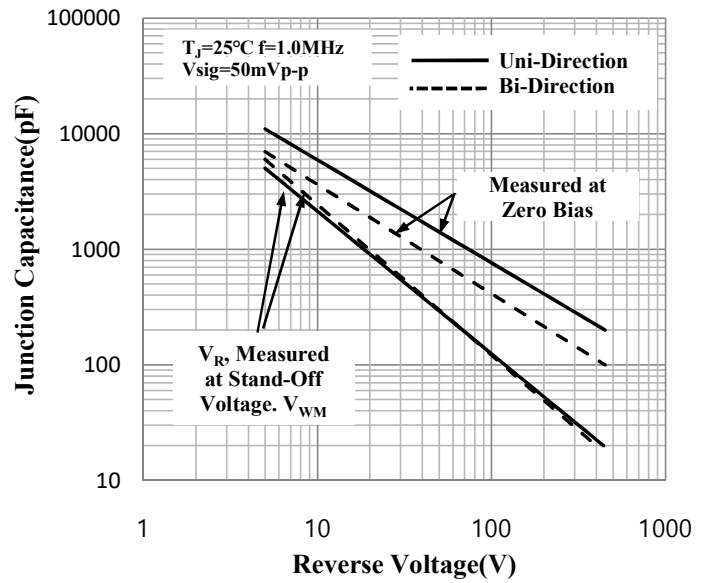


Fig. 5 Steady State Power Dissipation Derating Curve

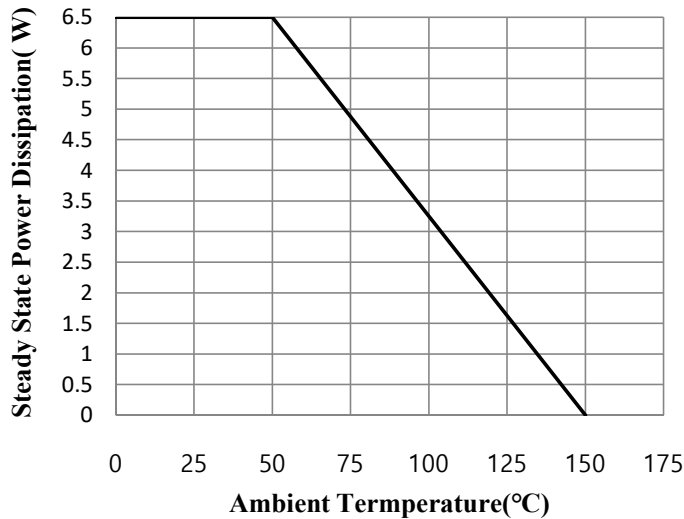


Fig. 6 Maximum Non-Repetitive Forward Surge Current Unidirectional Only

