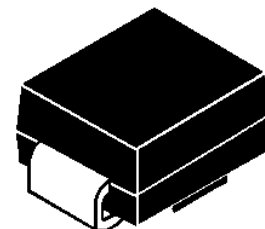


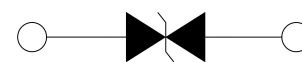
3000W Surface Mount Transient Voltage Suppressors

Features

- Peak power dissipation 3000W @10 x 1000 us Pulse
- Low profile package.
- Excellent clamping capability.
- Typical I_R less than 2uA when V_{BR} above 12V.
- Glass passivated junction.
- Fast response time: typically less than 1.0ps from 0 Volts to BV min
- IEC 61000-4-2 ESD 30KV(Air), 30KV(Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4
- Halogen free and RoHS compliant
- Lead-free finish



SMC



Bi-directional



Uni-directional

Mechanical Characteristics

- CASE: SMD Molded Plastic over glass passivated junction.
- Mounting Position: Any
- Polarity: by cathode band denotes uni-directional device, none cathode band denotes bi-directional device.
- Terminal: Solder plated

Maximum Ratings and Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P_{PPM}	3000	W
Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	P_D	6.5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	I_{FSM}	300	A
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
2. Mounted on $8.0 \times 8.0 \text{mm}^2$ (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

Electrical Specification @ Tamb 25°C

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RMW}
(Uni)	(Bi)	(Uni)	(Bi)	V _{RMW} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μ A)
KSMDJ5.0A	KSMDJ5.0CA	HDE	IDE	5.0	6.40	7.00	10	9.2	326.1	800
KSMDJ6.0A	KSMDJ6.0CA	HDG	IDG	6.0	6.67	7.37	10	10.3	291.3	800
KSMDJ6.5A	KSMDJ6.5CA	HDK	IDK	6.5	7.22	7.98	10	11.2	267.9	500
KSMDJ7.0A	KSMDJ7.0CA	HDM	IDM	7.0	7.78	8.60	10	12.0	250.0	200
KSMDJ7.5A	KSMDJ7.5CA	HDP	IDP	7.5	8.33	9.21	1	12.9	232.6	100
KSMDJ8.0A	KSMDJ8.0CA	HDR	IDR	8.0	8.89	9.83	1	13.6	220.6	50
KSMDJ8.5A	KSMDJ8.5CA	HDT	IDT	8.5	9.44	10.40	1	14.4	208.3	20
KSMDJ9.0A	KSMDJ9.0CA	HDV	IDV	9.0	10.00	11.10	1	15.4	194.8	10
KSMDJ10A	KSMDJ10CA	HDX	IDX	10.0	11.10	12.30	1	17.0	176.5	5
KSMDJ11A	KSMDJ11CA	HDZ	IDZ	11.0	12.20	13.50	1	18.2	164.8	2
KSMDJ12A	KSMDJ12CA	HEE	IEE	12.0	13.30	14.70	1	19.9	150.8	2
KSMDJ13A	KSMDJ13CA	HEG	IEG	13.0	14.40	15.90	1	21.5	139.5	2
KSMDJ14A	KSMDJ14CA	HEK	IEK	14.0	15.60	17.20	1	23.2	129.3	2
KSMDJ15A	KSMDJ15CA	HEM	IEM	15.0	16.70	18.50	1	24.4	123.0	2
KSMDJ16A	KSMDJ16CA	HEP	IEP	16.0	17.80	19.70	1	26.0	115.4	2
KSMDJ17A	KSMDJ17CA	HER	IER	17.0	18.90	20.90	1	27.6	108.7	2
KSMDJ18A	KSMDJ18CA	HET	IET	18.0	20.00	22.10	1	29.2	102.7	2
KSMDJ20A	KSMDJ20CA	HEV	IEV	20.0	22.20	24.50	1	32.4	92.6	2
KSMDJ22A	KSMDJ22CA	HEX	IEX	22.0	24.40	26.90	1	35.5	84.5	2
KSMDJ24A	KSMDJ24CA	HEZ	IEZ	24.0	26.70	29.50	1	38.9	77.1	2
KSMDJ26A	KSMDJ26CA	HFE	IFE	26.0	28.90	31.90	1	42.1	71.3	2
KSMDJ28A	KSMDJ28CA	HFG	IFG	28.0	31.10	34.40	1	45.4	66.1	2
KSMDJ30A	KSMDJ30CA	HFK	IFK	30.0	33.30	36.80	1	48.4	62.0	2
KSMDJ33A	KSMDJ33CA	HFM	IFM	33.0	36.70	40.60	1	53.3	56.3	2
KSMDJ36A	KSMDJ36CA	HFP	IFP	36.0	40.00	44.20	1	58.1	51.6	2
KSMDJ40A	KSMDJ40CA	HFR	IFR	40.0	44.40	49.10	1	64.5	46.5	2
KSMDJ43A	KSMDJ43CA	HFT	IFT	43.0	47.80	52.80	1	69.4	43.2	2
KSMDJ45A	KSMDJ45CA	HFV	IFV	45.0	50.00	55.30	1	72.7	41.3	2
KSMDJ48A	KSMDJ48CA	HFX	IFX	48.0	53.30	58.90	1	77.4	38.8	2
KSMDJ51A	KSMDJ51CA	HFZ	IFZ	51.0	56.70	62.70	1	82.4	36.4	2
KSMDJ54A	KSMDJ54CA	HGE	IGE	54.0	60.00	66.30	1	87.1	34.4	2
KSMDJ58A	KSMDJ58CA	HGG	IGG	58.0	64.40	71.20	1	93.6	32.1	2
KSMDJ60A	KSMDJ60CA	HGK	IGK	60.0	66.70	73.70	1	96.8	31.0	2
KSMDJ64A	KSMDJ64CA	HGM	IGM	64.0	71.10	78.60	1	103.0	29.1	2
KSMDJ70A	KSMDJ70CA	HGP	IGP	70.0	77.80	86.00	1	113.0	26.5	2
KSMDJ75A	KSMDJ75CA	HGR	IGR	75.0	83.30	92.10	1	121.0	24.8	2

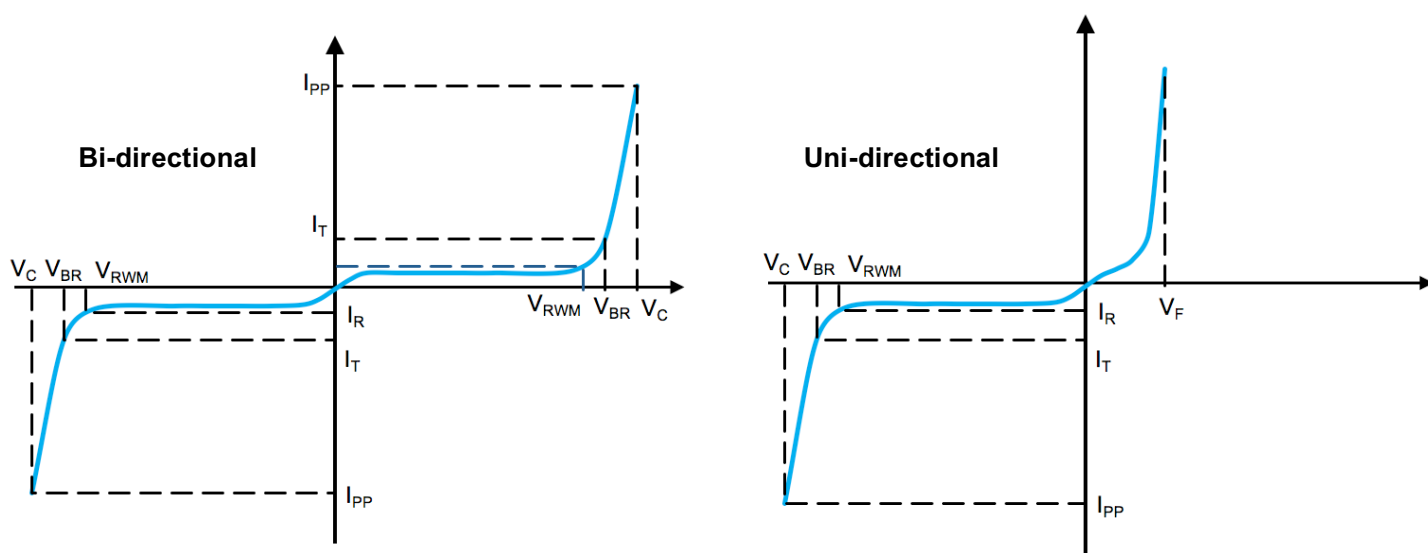
※ For Bi-directional type having V_{RMW} of 10 Volts and less, the I_R limit is double.

※ For parts without A, the V_{BR} is \pm 10% and V_C is 5% higher than with A parts.

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
(Uni)	(Bi)	(Uni)	(Bi)	$V_{RWM}(V)$	$V_{BR MIN}(V)$	$V_{BR MAX}(V)$	$I_T (mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
KSMDJ78A	KSMDJ78CA	HGT	IGT	78.0	86.70	95.80	1	126.0	23.8	2
KSMDJ85A	KSMDJ85CA	HGV	IGV	85.0	94.40	104.00	1	137.0	21.9	2
KSMDJ90A	KSMDJ90CA	HGX	IGX	90.0	100.00	111.00	1	146.0	20.5	2
KSMDJ100A	KSMDJ100CA	HGZ	IGZ	100.0	111.00	123.00	1	162.0	18.5	2
KSMDJ110A	KSMDJ110CA	HHE	IHE	110.0	122.00	135.00	1	177.0	16.9	2
KSMDJ120A	KSMDJ120CA	HHG	IHG	120.0	133.00	147.00	1	193.0	15.5	2
KSMDJ130A	KSMDJ130CA	HHK	IHK	130.0	144.00	159.00	1	209.0	14.4	2
KSMDJ150A	KSMDJ150CA	HHM	IHM	150.0	167.00	185.00	1	243.0	12.3	2
KSMDJ160A	KSMDJ160CA	HHP	IHP	160.0	178.00	197.00	1	259.0	11.6	2
KSMDJ170A	KSMDJ170CA	HHR	IHR	170.0	189.00	209.00	1	275.0	10.9	2
KSMDJ180A	KSMDJ180CA	HHT	IHT	180.0	200.00	221.00	1	292.0	10.3	2
KSMDJ190A	KSMDJ190CA	HHV	IHV	190.0	211.00	233.00	1	308.0	9.7	2
KSMDJ200A	KSMDJ200CA	HHX	IHX	200.0	224.00	247.00	1	324.0	9.3	2
KSMDJ210A	KSMDJ210CA	HHZ	IHZ	210.0	237.00	263.00	1	340.0	8.8	2
KSMDJ220A	KSMDJ220CA	HIE	IIE	220.0	244.00	270.00	1	356.0	8.4	2

- ※ For Bi-directional type having V_{RWM} of 10 Volts and less, the I_R limit is double.
- ※ For parts without A, the VBR is $\pm 10\%$ and VC is 5% higher than with A parts.

I-V Curve Characteristics



- P_{PPM} Peak Pulse Power Dissipation** - Max power dissipation
- V_{RWM} Reverse Stand-off Voltage** - Maximum voltage that can be applied to TVS without operation
- V_{BR} Breakdown Voltage** – Maximum voltage that flows through the TVS at a specified current (I_T)
- V_C Clamping Voltage** – Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)
- I_R Reverse Leakage Current** – Current measured at V_R
- V_F Forward Voltage Drop for Uni-directional**

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

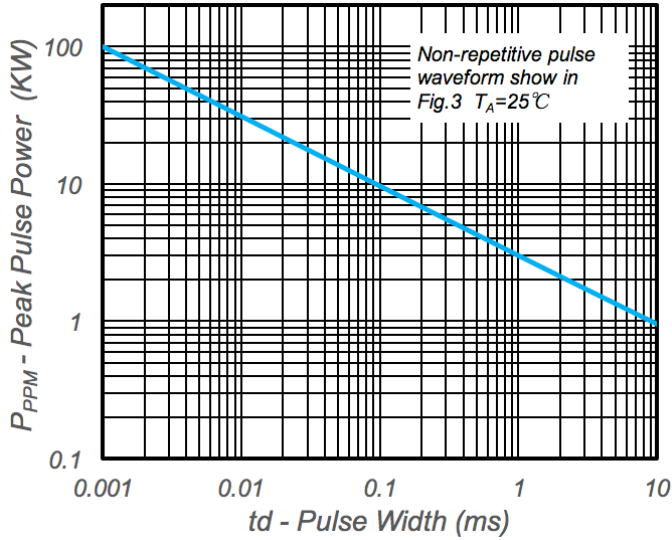


Fig.1 - Peak Pulse Power Rating

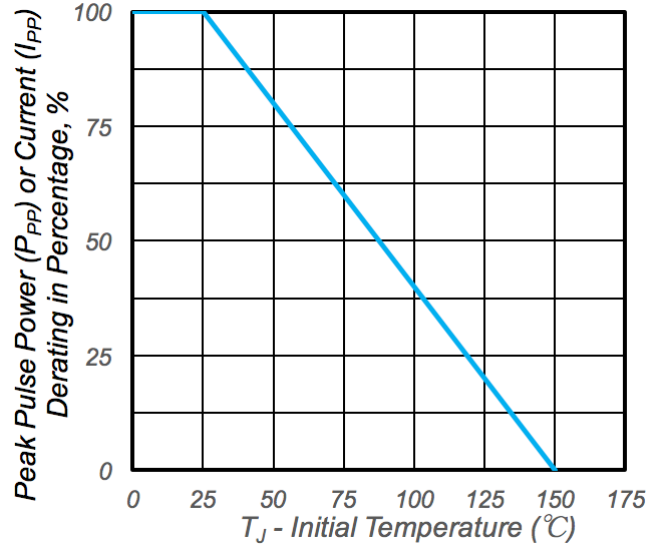


Fig.2 - Pulse Derating Curve

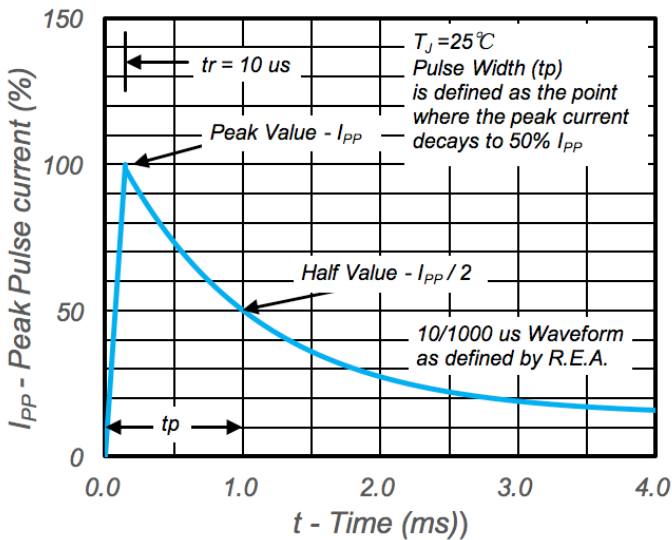


Fig.3 - Pulse Waveform

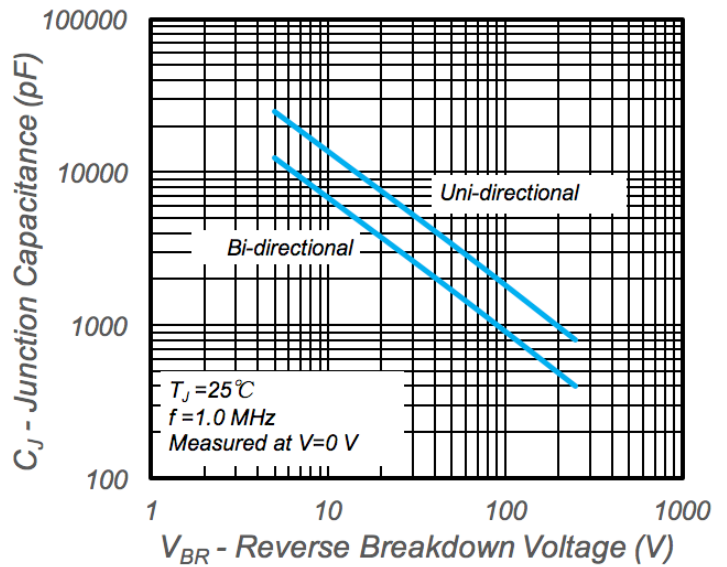
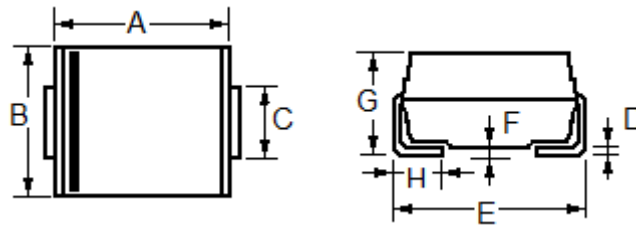


Fig.4 - Typical Junction Capacitance

Package Outline Dimensions and Pad Layouts

(SMC)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	6.60	7.11	0.260	0.280
B	5.59	6.22	0.220	0.245
C	2.90	3.20	0.114	0.126
D	0.125	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	----	0.203	----	0.008
G	2.06	2.62	0.079	0.103
H	0.76	1.52	0.030	0.060