

## TRANSIENT VOLTAGE SUPPRESSOR

### FEATURE

- ✧ Plastic package.
- ✧ Glass passivated chip junction in SMA Package
- ✧ Excellent clamping capability.
- ✧ Low zener impedance.
- ✧ 400W peak pulse power capability on 10/1000µs waveform.
- ✧ Typical IR less than 1µA above 13V.
- ✧ Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- ✧ High temperature soldering guaranteed: 265°C/10 seconds

### MECHANICAL DATE

- ✧ Case: JEDEC SMA Molded Plastic.
- ✧ Terminals: Axial leads, solderable per MIL-STD-750, Method 2026.
- ✧ Polarity: Color band denoted cathode except bidirectional.
- ✧ Mounting Position: Any.

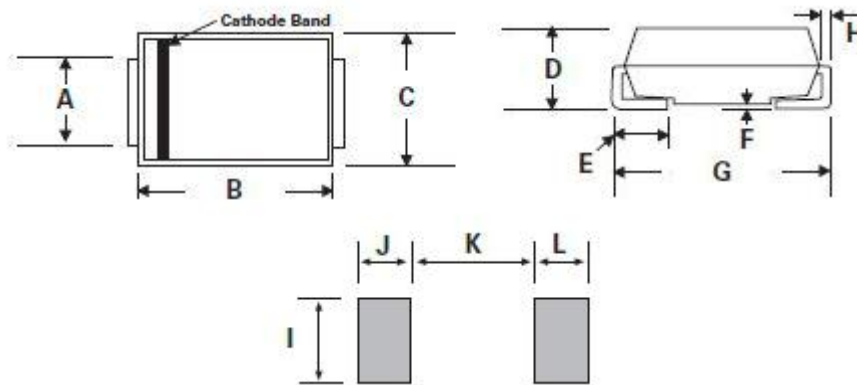
### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Peak Pulse Power Dissipation on 10/1000us waveform (Notel, Fig.1).	P <sub>PPM</sub>	Minimum 400	Watts
Peak Pulse Current of on 10/1000us waveform. (Notel, Fig.3)	I <sub>PPM</sub>	See Table	Amps
Steady State Power Dissipation at TL =75°C, Lead lengths. 375", (9.5mm) (Fig.5).	P <sub>M(AV)</sub>	3.3	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2, Fig.6).	I <sub>FPM</sub>	40	Amps
Operating junction and Storage Temperature Range.	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.
2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.



A	1.25	1.65	0.049	0.065
B	3.99	4.5	0.157	0.177
C	2.54	2.79	0.1	0.11
D	1.98	2.29	0.078	0.09
E	0.78	1.52	0.03	0.06
F	-	0.203	-	0.008
G	4.93	5.28	0.194	0.208
H	0.152	0.305	0.006	0.012
I	1.8	-	0.07	-
J	2.1	-	0.082	-
K	-	2.3	-	0.09
L	2.1	-	0.082	-

## ELECTRICAL CHARACTERISTICS

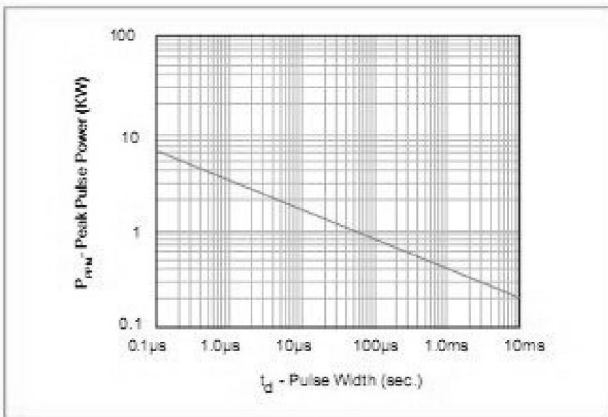
Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage VBH.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage @IPP
UNT	BI	UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(uA)	IT(mA)	IPP(A)	VCH(V)
KSMAJ5.0A	KSMAJ5.0CA	AE	WE	5.0	6.40	7.00	800	10	43.5	9.2
KSMAJ6.0A	KSMAJ6.0CA	AG	WG	6.0	6.67	7.37	800	10	38.8	10.3
KSMAJ6.5A	KSMAJ6.5CA	AK	WK	6.5	7.22	7.98	500	10	35.7	11.2
KSMAJ7.0A	KSMAJ7.0CA	AM	WM	7.0	7.78	8.60	200	10	33.3	12.0
KSMAJ7.5A	KSMAJ7.5CA	AP	WP	7.5	8.33	9.21	100	1	31.0	12.9
KSMAJ8.0A	KSMAJ8.0CA	AR	WR	8.0	8.89	9.83	50	1	29.4	13.6
KSMAJ8.5A	KSMAJ8.5CA	AT	WT	8.5	9.44	10.40	20	1	27.8	14.4
KSMAJ9.0A	KSMAJ9.0CA	AV	WV	9.0	10.00	11.10	10	1	26.0	15.4
KSMAJ10A	KSMAJ10CA	AX	WX	10	11.10	12.30	5	1	23.5	17.0
KSMAJ11A	KSMAJ11CA	AZ	WZ	11	12.20	13.50	1	1	22.0	18.2
KSMAJ12A	KSMAJ12CA	BE	XE	12	13.30	14.70	1	1	20.1	19.9
KSMAJ13A	KSMAJ13CA	BG	XG	13	14.40	15.90	1	1	18.6	21.5

Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage NIN.@IT	Breakdown Voltage MAX.@IT	Reverse Leakage @VRWM	Test Current	Peak Pulse Current	Maximum Clamping Voltage @IPP
UNT	BI	UNT	BI	VR(V)	VBL(V)	VBH(V)	IR(μA)	IT(mA)	IPP(A)	VCH(V)
KSMAJ14A	KSMAJ14CA	BK	XK	14	15.60	17.20	1	1	17.2	23.2
KSMAJ15A	KSMAJ15CA	BM	XM	15	16.70	18.50	1	1	16.4	24.4
KSMAJ16A	KSMAJ16CA	BP	XP	16	17.80	19.70	1	1	15.4	26.0
KSMAJ17A	KSMAJ17CA	BR	XR	17	18.90	20.90	1	1	14.5	27.6
KSMAJ18A	KSMAJ18CA	BT	XT	18	20.00	22.10	1	1	13.7	29.2
KSMAJ20A	KSMAJ20CA	BV	XV	20	22.20	24.50	1	1	12.3	32.4
KSMAJ22A	KSMAJ22CA	BX	XX	22	24.40	26.90	1	1	11.3	35.5
KSMAJ24A	KSMAJ24CA	BZ	XZ	24	26.70	29.50	1	1	10.3	38.9
KSMAJ26A	KSMAJ26CA	CE	YE	26	28.90	31.90	1	1	9.5	42.1
KSMAJ28A	KSMAJ28CA	CG	YG	28	31.10	34.40	1	1	8.8	45.4
KSMAJ30A	KSMAJ30CA	CK	YK	30	33.30	36.80	1	1	8.3	48.4
KSMAJ33A	KSMAJ33CA	CM	YM	33	40.00	44.20	1	1	6.9	58.1
KSMAJ36A	KSMAJ36CA	CP	YP	36	36.70	40.60	1	1	7.5	53.3
KSMAJ40A	KSMAJ40CA	CR	YR	40	44.40	49.10	1	1	6.2	64.5
KSMAJ43A	KSMAJ43CA	CT	YT	43	47.80	52.80	1	1	5.8	69.4
KSMAJ45A	KSMAJ45CA	CV	YV	45	50.00	55.30	1	1	5.5	72.7
KSMAJ48A	KSMAJ48CA	CX	YX	48	53.30	58.90	1	1	5.2	77.4
KSMAJ51A	KSMAJ51CA	CZ	YZ	51	56.70	62.70	1	1	4.9	82.4
KSMAJ54A	KSMAJ54CA	RE	ZE	54	60.00	66.30	1	1	4.6	87.1
KSMAJ58A	KSMAJ58CA	RG	ZG	58	64.40	71.20	1	1	4.3	93.6
KSMAJ60A	KSMAJ60CA	RK	ZK	60	66.70	73.70	1	1	4.1	96.8
KSMAJ64A	KSMAJ64CA	RM	ZM	64	71.10	78.60	1	1	3.9	103
KSMAJ70A	KSMAJ70CA	RP	ZP	70	77.80	86.00	1	1	3.5	113
KSMAJ75A	KSMAJ75CA	RR	ZR	75	83.30	92.10	1	1	3.3	121
KSMAJ78A	KSMAJ78CA	RT	ZT	78	86.70	95.80	1	1	3.2	126
KSMAJ85A	KSMAJ85CA	RV	ZV	85	94.4	104.0	1	1	2.9	137
KSMAJ90A	KSMAJ90CA	RX	ZX	90	100.0	111.0	1	1	2.7	146
KSMAJ100A	KSMAJ100CA	RZ	ZZ	100	111.0	123.0	1	1	2.5	162
KSMAJ110A	KSMAJ110CA	SE	VE	110	122.0	135.0	1	1	2.3	177
KSMAJ120A	KSMAJ120CA	SG	VG	120	133.0	147.0	1	1	2.1	193
KSMAJ130A	KSMAJ130CA	SK	VK	130	144.0	159.0	1	1	1.9	209
KSMAJ150A	KSMAJ150CA	SM	VM	150	167.0	185.0	1	1	1.6	243
KSMAJ160A	KSMAJ160CA	SP	VP	160	178.0	197.0	1	1	1.5	259
KSMAJ170A	KSMAJ170CA	SR	VR	170	189.0	209.0	1	1	1.5	275
KSMAJ180A	KSMAJ180CA	ST	VT	180	201.0	222.0	1	1	1.4	292
KSMAJ190A	KSMAJ190CA	SU	YU	190	209.0	243.0	1	1	1.3	308
KSMAJ200A	KSMAJ200CA	SW	YW	200	224.0	247.0	1	1	1.2	324
KSMAJ220A	KSMAJ220CA	GE	VX	220	246.0	272.0	1	1	1.1	356
KSMAJ250A	KSMAJ250CA	SZ	VZ	250	279.0	309.0	1	1	1.0	405
KSMAJ300A	KSMAJ300CA	TE	UE	300	335.0	371.0	1	1	0.8	486
KSMAJ350A	KSMAJ350CA	TG	UG	350	391.0	432.0	1	1	0.7	567
KSMAJ400A	KSMAJ400CA	TK	UK	400	447.0	494.0	1	1	0.6	648
KSMAJ440A	KSMAJ440CA	TM	UM	440	492.0	543.0	1	1	0.6	713

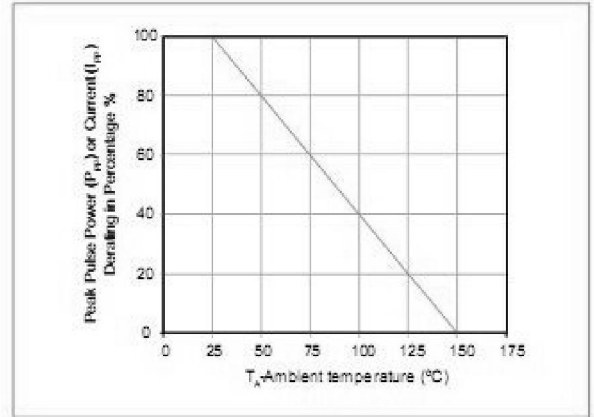
**Notes:** For bidirectional type having VRWM of 10 volts and less, the IR limit is double.

**RATINGS AND CHARACTERISTIC CURVES** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

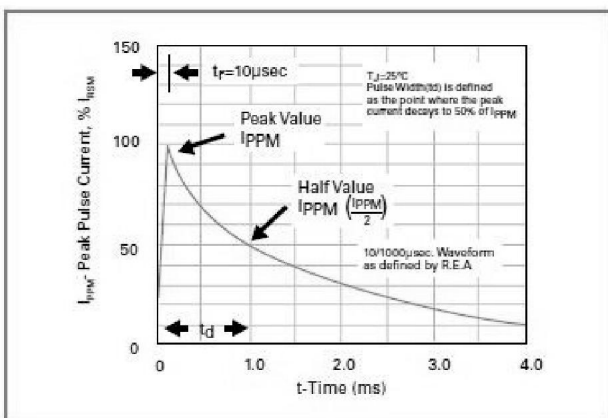
**Figure 1 - Peak Pulse Power Rating Curve**



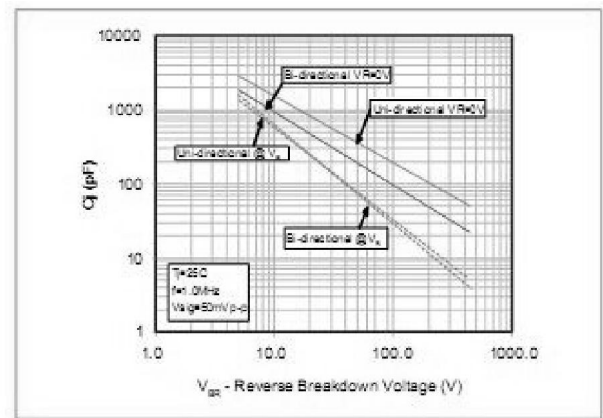
**Figure 2 - Pulse Derating Curve**



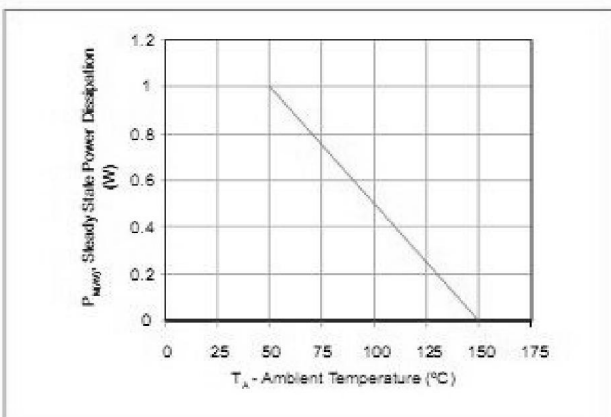
**Figure 3 - Pulse Waveform**



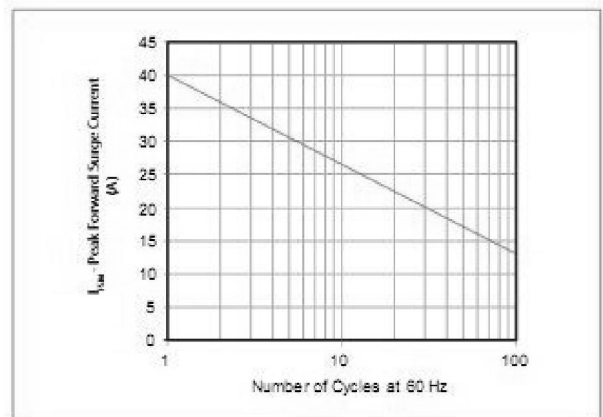
**Figure 4 - Typical Junction Capacitance Uni-Directional**



**Figure 5 - Steady State Power Dissipation Derating Curve**



**Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only**



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