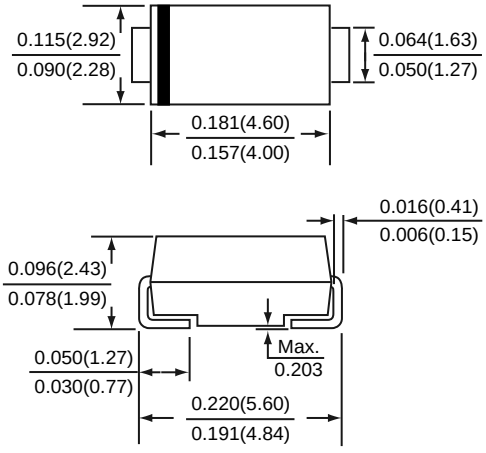
SMAJ SERIES

GLASS PASSIVATED SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Breakdown Voltage - 5.0 to 440 Volts *Peak Pulse Power-400 Watts*

SMA/DO-214AC



*Dimensions in inches and (millimeters)

FEATURES

* Glass passivated chip
* 400 W peak pulse power capability with a 10/1000 μs wavefrom, repetitive rate (duty cycle) : 0.01%
* Low leakage
* Excellent clamping capability
* Very fast response time

MECHANICAL DATA

Case : JEDEC DO-214AC molded plastic
Terminals : Plated axial leads , solderable per MIL-STD-750, Method 2026
Polarity : Color band denotes positive end (cathode) except for bidirectional types
Weight : 0.002 ounes, 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
single phase, half wave, 60Hz resistive or inductive load.
for capacitive load, derate current by 20%

RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000 μs waveform (note 1)	P_{PPM}	400	Watts
Peak pulse current with a 10/1000 μs waveform (node 1)	I_{PPM}	See next table	Amps
Power dissipation on infinite heatsink at T_L = 75℃	P_D	1.0	Watts
Peak forward surge current,8.3ms single half sine-wave unidirectional only (note 2)	I_{FSM}	40	Amps
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150	℃

NOTES : (1) Non-repetitive current pulse per Fig. 5 and derated abobe T_A = 25℃ per Fig. 1
(2) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

SMAJ SERIES

SMAJ PART NUMBER		Device Marking Code		Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} @I_T			Maximum Clamping Voltage V_C (V) @ I_{PP}	Maximum Reverse Surge Current I_{PP} (A) @10 x 1000 μs sinewave	Maximum Reverse Leakage I_R (μA) @V_{RWM}
UNI- POLAR	BI-POLAR	UNI	BI		Min. (V)	Max. (V)	I_T (mA)			
SMAJ5.0A	SMAJ5.0CA	AE	WE	5.0	6.4	7.00	10	9.2	43.48	800
SMAJ6.0A	SMAJ6.0CA	AG	WG	6.0	6.7	7.37	10	10.3	38.83	800
SMAJ6.5A	SMAJ6.5CA	AK	WK	6.5	7.2	7.98	10	11.2	35.71	500
SMAJ7.0A	SMAJ7.0CA	AM	WM	7.0	7.8	8.60	10	12.0	33.33	200
SMAJ7.5A	SMAJ7.5CA	AP	WP	7.5	8.3	9.21	1	12.9	31.01	100
SMAJ8.0A	SMAJ8.0CA	AR	WR	8.0	8.9	9.83	1	13.6	29.41	50
SMAJ8.5A	SMAJ8.5CA	AT	WT	8.5	9.4	10.4	1	14.4	27.78	10
SMAJ9.0A	SMAJ9.0CA	AV	WV	9.0	10.0	11.1	1	15.4	25.97	5
SMAJ10A	SMAJ10CA	AX	WX	10	11.1	12.3	1	17.0	23.53	5
SMAJ11A	SMAJ11CA	AZ	WZ	11	12.2	13.5	1	18.2	21.98	5
SMAJ12A	SMAJ12CA	BE	XE	12	13.3	14.7	1	19.9	20.10	5
SMAJ13A	SMAJ13CA	BG	XG	13	14.4	15.9	1	21.5	18.60	5
SMAJ14A	SMAJ14CA	BK	XK	14	15.6	17.2	1	23.2	17.24	5
SMAJ15A	SMAJ15CA	BM	XM	15	16.7	18.5	1	24.4	16.39	5
SMAJ16A	SMAJ16CA	BP	XP	16	17.8	19.7	1	26.0	15.38	5
SMAJ17A	SMAJ17CA	BR	XR	17	18.9	20.9	1	27.6	14.49	5
SMAJ18A	SMAJ18CA	BT	XT	18	20.0	22.1	1	29.2	13.70	5
SMAJ19A	SMAJ19CA	BB	XB	19	21.1	23.3	1	30.8	13.00	5
SMAJ20A	SMAJ20CA	BV	XV	20	22.2	24.5	1	32.4	12.35	5
SMAJ22A	SMAJ22CA	BX	XX	22	24.4	26.9	1	35.5	11.27	5
SMAJ24A	SMAJ24CA	BZ	XZ	24	26.7	29.5	1	38.9	10.28	5
SMAJ26A	SMAJ26CA	CE	YE	26	28.9	31.9	1	42.1	9.50	5
SMAJ28A	SMAJ28CA	CG	YG	28	31.1	34.4	1	45.4	8.81	5
SMAJ30A	SMAJ30CA	CK	YK	30	33.3	36.8	1	48.4	8.26	5
SMAJ33A	SMAJ33CA	CM	YM	33	36.7	40.6	1	53.3	7.50	5
SMAJ36A	SMAJ36CA	CP	YP	36	40.0	44.2	1	58.1	6.88	5
SMAJ40A	SMAJ40CA	CR	YR	40	44.4	49.1	1	64.5	6.20	5
SMAJ43A	SMAJ43CA	CT	YT	43	47.8	52.8	1	69.4	5.76	5
SMAJ45A	SMAJ45CA	CV	YV	45	50.0	55.3	1	72.7	5.50	5
SMAJ48A	SMAJ48CA	CX	YX	48	53.3	58.9	1	77.4	5.17	5
SMAJ51A	SMAJ51CA	CZ	YZ	51	56.7	62.7	1	82.4	4.85	5
SMAJ54A	SMAJ54CA	RE	ZE	54	60.0	66.3	1	87.1	4.59	5
SMAJ58A	SMAJ58CA	RG	ZG	58	64.4	71.2	1	93.6	4.27	5
SMAJ60A	SMAJ60CA	RK	ZK	60	66.7	73.7	1	96.8	4.13	5
SMAJ64A	SMAJ64CA	RM	ZM	64	71.1	78.6	1	103	3.88	5
SMAJ70A	SMAJ70CA	RP	ZP	70	77.8	86.0	1	113	3.54	5
SMAJ75A	SMAJ75CA	RR	ZR	75	83.3	92.1	1	121	3.31	5
SMAJ78A	SMAJ78CA	RT	ZT	78	86.7	95.8	1	126	3.17	5
SMAJ80A	SMAJ80CA	RB	ZB	80	88.8	97.6	1	130	3.09	5
SMAJ85A	SMAJ85CA	RV	ZV	85	94.4	104	1	137	2.92	5
SMAJ90A	SMAJ90CA	RX	ZX	90	100	111	1	146	2.74	5
SMAJ100A	SMAJ100CA	RZ	ZZ	100	111	123	1	162	2.47	5
SMAJ110A	SMAJ110CA	SE	VE	110	122	135	1	177	2.26	5
SMAJ120A	SMAJ120CA	SG	VG	120	133	147	1	193	2.07	5
SMAJ130A	SMAJ130CA	SK	VK	130	144	159	1	209	1.91	5
SMAJ140A	SMAJ140CA	SB	VB	140	155	171	1	227	1.76	5
SMAJ150A	SMAJ150CA	SM	VM	150	167	185	1	243	1.65	5
SMAJ160A	SMAJ160CA	SP	VP	160	178	197	1	259	1.54	5
SMAJ170A	SMAJ170CA	SR	VR	170	189	209	1	275	1.45	5
SMAJ180A	SMAJ180CA	ST	VT	180	200	220	1	292	1.37	5
SMAJ190A	SMAJ190CA	SV	VV	190	211	232	1	308	1.30	5
SMAJ200A	SMAJ200CA	SW	VW	200	224	247	1	324	1.23	5
SMAJ220A	SMAJ220CA	SX	VX	220	246	272	1	356	1.12	5
SMAJ250A	SMAJ250CA	SZ	VZ	250	279	309	1	405	0.99	5
SMAJ300A	SMAJ300CA	DE	HE	300	335	371	1	486	0.82	5
SMAJ350A	SMAJ350CA	DG	HG	350	391	432	1	567	0.71	5
SMAJ400A	SMAJ400CA	DK	HK	400	447	494	1	648	0.62	5
SMAJ440A	SMAJ440CA	DM	HM	440	492	543	1	713	0.56	5

NOTE : 1. Suffix " A " denotes 5% tolerance device.
2. Add suffix " CA " after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double .

RATINGS AND CHARACTERISTIC CURVES SMAJ SERIES

FIG. 1- PULSE DERATING CURVE

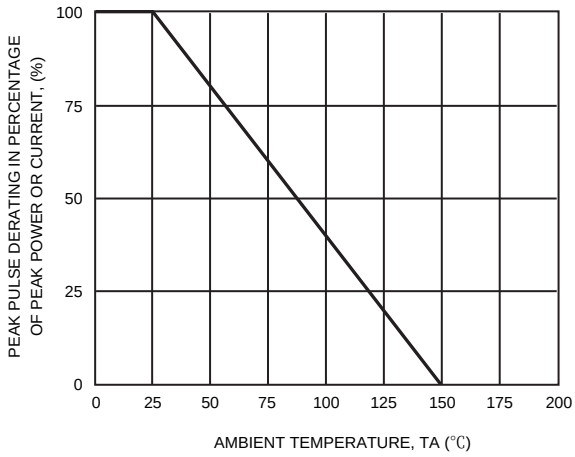


FIG. 2 - MAXIMUM NON-REPETITIVE

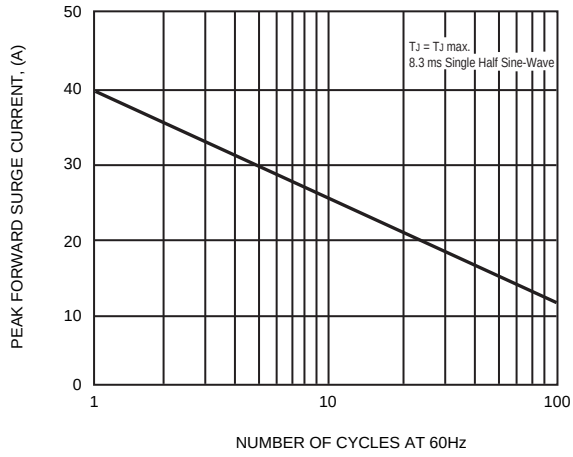


FIG. 3 - STEADY STATE POWER DERATING CURVE

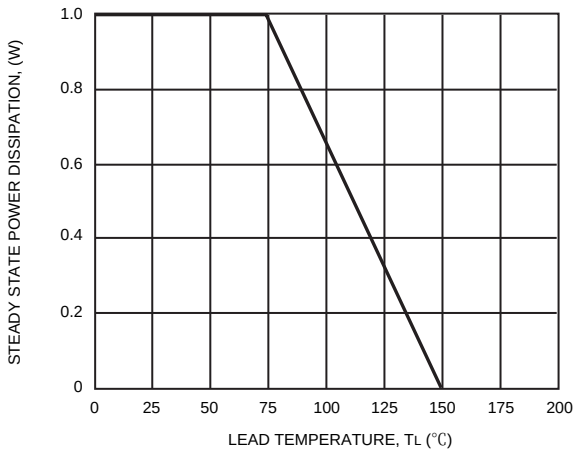


FIG. 4 - PEAK PULSE POWER RATING CURVE

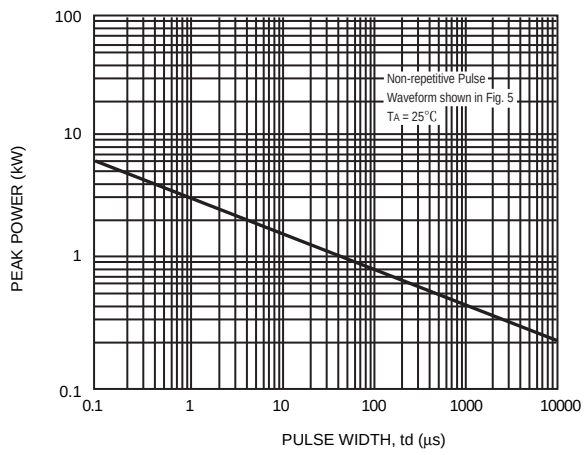


FIG. 5 - PULSE WAVEFORM