Elektronische Bauelemente

SMAJ SERIES

5V ~ 440V

400W Peak Power Surface Mount TVS

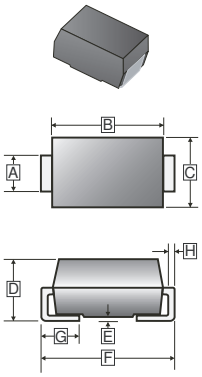
RoHS Compliant Product

A suffix of “-C” specifies halogen-free and lead-free

FEATURES

- For surface mount application
- Build-in strain relief
- Excellent clamping capability
- Low profile package
- Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- Typical I_R less than 1mA above 10V
- High temperature soldering guaranteed: 260℃ / 10 seconds at terminals

SMA



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.25	1.65	E	0.051	0.203
B	3.99	4.60	F	4.78	5.28
C	2.50	2.90	G	0.76	1.52
D	1.98	2.44	H	0.006	0.012

MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, Method 208 Guaranteed
- Polarity: Color band denotes cathode end except bidirectional
- Mounting position: Any
- Weight: 0.063 grams

PACKAGE INFORMATION

Package	MPQ	LeaderSize
SMA	5K	13’ inch

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.)

Ratings	Symbol	Value	Units
Peak Power Dissipation @ T_A=25℃, T_P=1ms [1]	P_{PK}	400 (Min.)	W
Peak Forward Surge Current @ 8.3ms single Half Sine-Wave superimposed on rated load (JEDEC method) [2]	I_{FSM}	40	A
Maximum Instantaneous Forward voltage @ 25A for unidirectional only	V_F	3.5	V
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	℃

Notes:

1. Non-repetitive current pulse per Fig. 3 and derated above T_A=25℃ per Fig. 2.
2. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-PEAK PULSE POWER DERATING CURVE

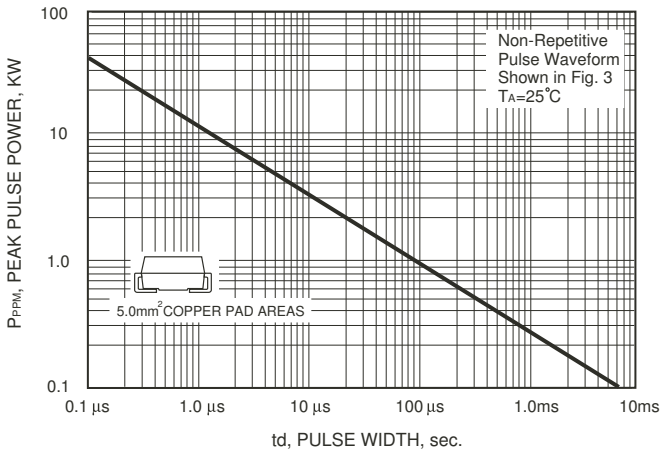


FIG.2-PULSE DERATING CURVE

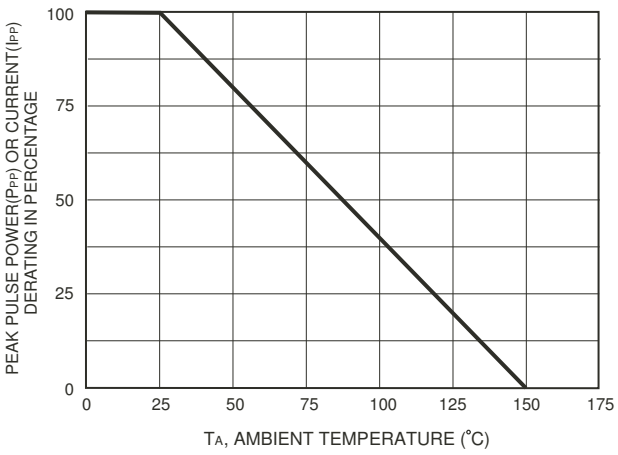


FIG.3-PULSE WAVE FORM

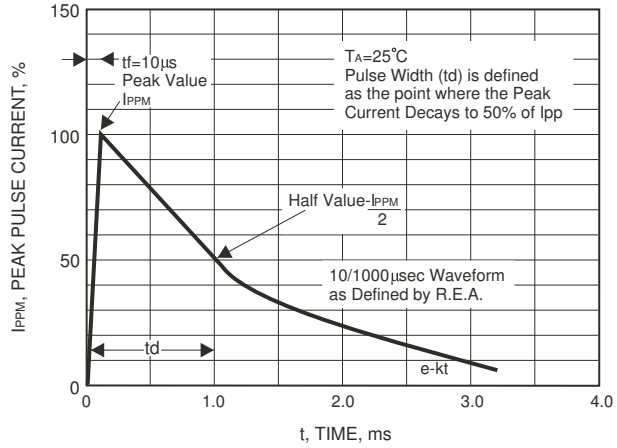


FIG.4-TYPICAL JUNCTION CAPACITANCE

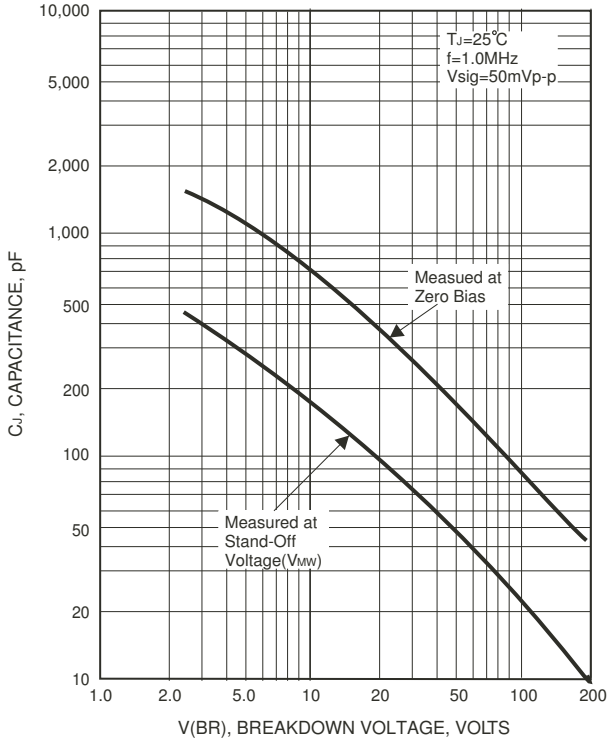
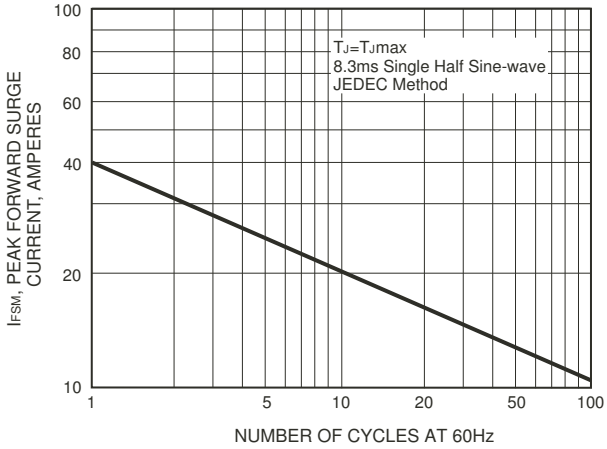


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



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PART NUMBER (See Note)		REVERSE STANDOFF VOLTAGE V_{RWM}	BREAKDOWN VOLTAGE		TEST CURRENT	MAX CLAMPING VOLTAGE V_C @I_{PP}	PEAK PAUSE CURRENT I_{PP}	REVERSE LEAKAGE I_R @V_{RWM}
			Min V_{BR} @ I_T	Max V_{BR} @ I_T				
Uni-direction	Bi-direction	V	V	V	mA	V	A	μA
SMAJ5.0A	SMAJ5.0CA	5.0	6.40	7.00	10	9.2	43.5	800
SMAJ6.0A	SMAJ6.0CA	6.0	6.67	7.37	10	10.3	38.8	800
SMAJ6.5A	SMAJ6.5CA	6.5	7.22	7.98	10	11.2	35.7	500
SMAJ7.0A	SMAJ7.0CA	7.0	7.78	8.60	10	12.0	33.3	200
SMAJ7.5A	SMAJ7.5CA	7.5	8.33	9.21	1	12.9	31.0	100
SMAJ8.0A	SMAJ8.0CA	8.0	8.89	9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	8.5	9.44	10.4	1	14.4	27.7	10
SMAJ9.0A	SMAJ9.0CA	9.0	10.0	11.1	1	15.4	26.0	5
SMAJ10A	SMAJ10CA	10	11.1	12.3	1	17.0	23.5	5
SMAJ11A	SMAJ11CA	11	12.2	13.5	1	18.2	22.0	5
SMAJ12A	SMAJ12CA	12	13.3	14.7	1	19.9	20.1	5
SMAJ13A	SMAJ13CA	13	14.4	15.9	1	21.5	18.6	5
SMAJ14A	SMAJ14CA	14	15.6	17.2	1	23.2	17.2	5
SMAJ15A	SMAJ15CA	15	16.7	18.5	1	24.4	16.4	5
SMAJ16A	SMAJ16CA	16	17.8	19.7	1	26.0	15.3	5
SMAJ17A	SMAJ17CA	17	18.9	20.9	1	27.6	14.5	5
SMAJ18A	SMAJ18CA	18	20.0	22.1	1	29.2	13.7	5
SMAJ20A	SMAJ20CA	20	22.2	24.5	1	32.4	12.3	5
SMAJ22A	SMAJ22CA	22	24.4	26.9	1	35.5	11.2	5
SMAJ24A	SMAJ24CA	24	26.7	29.5	1	38.9	10.3	5
SMAJ26A	SMAJ26CA	26	28.9	31.9	1	42.1	9.5	5
SMAJ28A	SMAJ28CA	28	31.1	34.4	1	45.4	8.8	5
SMAJ30A	SMAJ30CA	30	33.3	36.8	1	48.4	8.3	5
SMAJ33A	SMAJ33CA	33	36.7	40.6	1	53.3	7.5	5
SMAJ36A	SMAJ36CA	36	40.0	44.2	1	58.1	6.9	5
SMAJ40A	SMAJ40CA	40	44.4	49.1	1	64.5	6.2	5
SMAJ43A	SMAJ43CA	43	47.8	52.8	1	69.4	5.7	5
SMAJ45A	SMAJ45CA	45	50.0	55.3	1	72.7	5.5	5
SMAJ48A	SMAJ48CA	48	53.3	58.9	1	77.4	5.2	5
SMAJ51A	SMAJ51CA	51	56.7	62.7	1	82.4	4.9	5

Notes：

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. For Bidirectional use CA suffix for types SMAJ5.0CA thru SMAJ440CA.
3. Electrical Characteristics apply in both directions.

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			Min V_{BR} @ I_T	Max V_{BR} @ I_T				
Uni – direction	**Bi -direction**	**V**	**V**	**V**	**mA**	**V**	**A**	**μA**
SMAJ54A	SMAJ54CA	54	60.0	66.3	1	87.1	4.6	5
SMAJ58A	SMAJ58CA	58	64.4	71.2	1	93.6	4.3	5
SMAJ60A	SMAJ60CA	60	66.7	73.7	1	96.8	4.1	5
SMAJ64A	SMAJ64CA	64	71.1	78.6	1	103	3.9	5
SMAJ70A	SMAJ70CA	70	77.8	86.0	1	113	3.5	5
SMAJ75A	SMAJ75CA	75	83.3	92.1	1	121	3.3	5
SMAJ78A	SMAJ78CA	78	86.7	95.8	1	126	3.2	5
SMAJ85A	SMAJ85CA	85	94.4	104	1	137	2.9	5
SMAJ90A	SMAJ90CA	90	100	111	1	146	2.7	5
SMAJ100A	SMAJ100CA	100	111	123	1	162	2.5	5
SMAJ110A	SMAJ110CA	110	122	135	1	177	2.3	5
SMAJ120A	SMAJ120CA	120	133	147	1	193	2.0	5
SMAJ130A	SMAJ130CA	130	144	159	1	209	1.9	5
SMAJ150A	SMAJ150CA	150	167	185	1	243	1.6	5
SMAJ160A	SMAJ160CA	160	178	197	1	259	1.5	5
SMAJ170A	SMAJ170CA	170	189	209	1	275	1.5	5
SMAJ180A	SMAJ180CA	180	200	220	1	292	1.4	5
SMAJ190A	SMAJ190CA	190	211	232	1	308	1.3	5
SMAJ200A	SMAJ200CA	200	224	247	1	324	1.2	5
SMAJ220A	SMAJ220CA	220	246	272	1	356	1.1	5
SMAJ250A	SMAJ250CA	250	279	309	1	405	1.0	5
SMAJ300A	SMAJ300CA	300	335	371	1	486	0.8	5
SMAJ350A	SMAJ350CA	350	391	432	1	567	0.7	5
SMAJ400A	SMAJ400CA	400	447	494	1	648	0.6	5
SMAJ440A	SMAJ440CA	440	492	543	1	713	0.6	5

Notes :
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