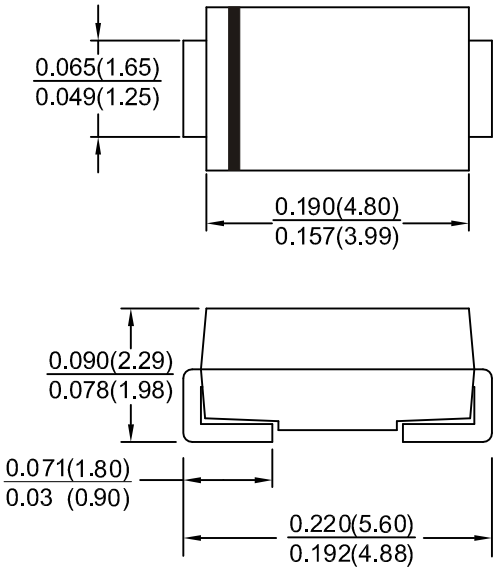
SMAJ5.0A(CA) THRU SMAJ440A(CA)

VOLTAGE - 5.0 TO 440 VOLTS 400 WATT PEAK POWER

SMA/DO-214AC

FEATURES:

- Low profile package
- For surface mounted application inorder to optimize board space
- Bulit-in strainrelief
- Glass passivated junction
- Excellent clamping capability
- Repetition rate (duty cycle) : 0.01%
- Fast response time : typically less thatn 1.0 ps from 0 volts to V(br) for unidirectional types
- Hgh temperature soldering guaranteed : 250℃ /10 seconds at terminal
- Typical IR less than 1uA ABOVE 10v
- Plastic package has Underwriters Laboratory Flammability 94V-0



Suffix "A" UNDIRECTIONAL

Suffix "CA" DIRECTIONAL

Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: JEDEC DO-214AC.Molded plastic over glass passivated junction

Terminals: Solder plated, Solderable per MIL-STD-705, Method 2026

Polarity: Cathode bandenoted positive end(cathode) except Bidirectional

Weight: 0.064 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25° C ambient temp. unless otherwise specified.

Single phase, half sine wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20 %.

Characteristic	Symbol	Value	Units
Minimum peak power dissipation on 10/1000us wavefrom (note1～2)	P_{PK}	400	W
Maximum peak pulse current of on 10/1000us wavefrom (note1,fig1)	I_{PPM}	SEE TABLE1～3	Amps
Maximum forward Surge current, 8.3ms Single Hlaf Sine-Wave Supermposed on rated load (note2～ 3)	I_{FSM}	40	Amps
Operating and storage temperature range	T_J, Tstg	-55 to+150	℃

NOTES :

1. Non-repetitive current pulse, per Fig.1 and derated above Ta=25℃ per Fig.2
2. Mounted on 5.0mmx5.0mm copper pads to each terminal
3. Measured on 8.3mS Singal half sine-wave or equivalent square wave ,duty cycle =4pulses per minute maximum.

Figure 1.-Pulse Waveform

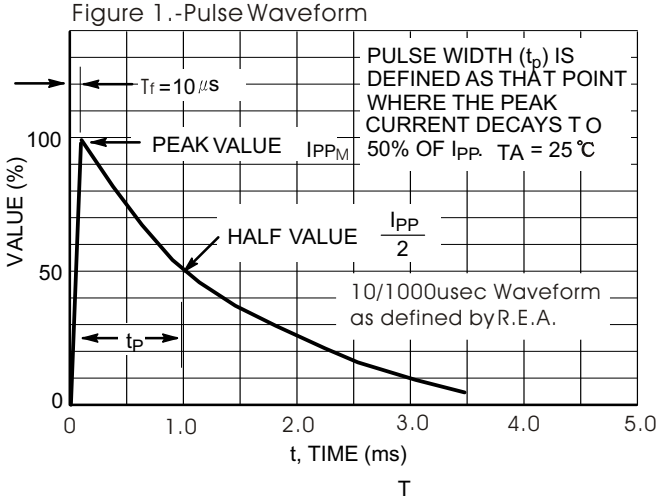


Figure 2.-Pulse Derating Cure

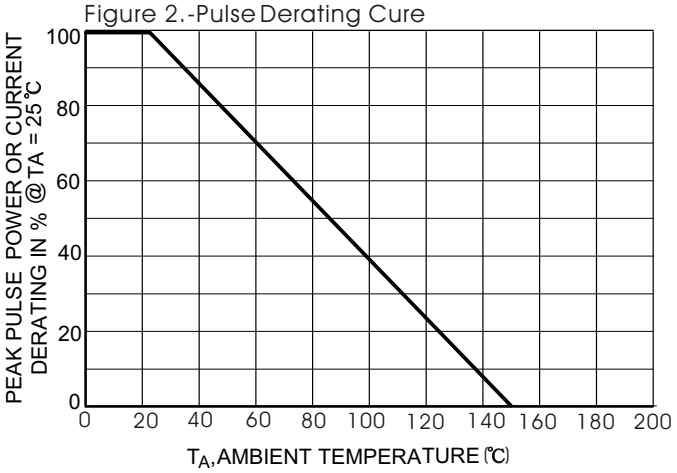
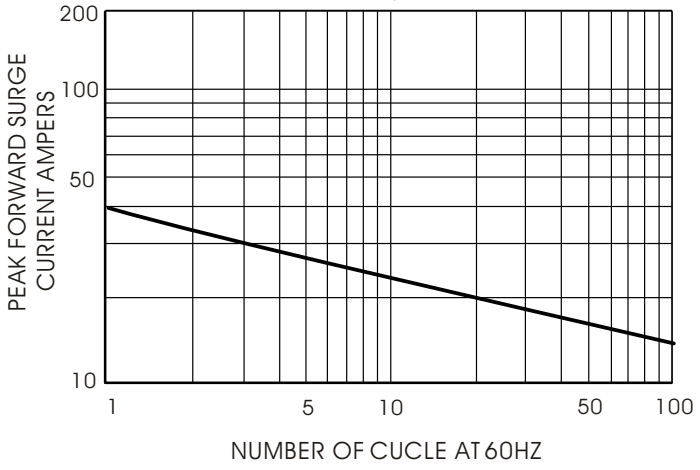


Figure 3.-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional Only



RATINGS AND CHARACTERISTIC CURVES SMAJ5.0A(CA) THRU SMAJ440A(CA)

TABLE 1

Device Type	Breakdown V_{BR} Voltage at I_T(Voltage)		Test Current I_T	Working Peak Reverse Voltage V_{RWM}	Maximun Reverse Leakage at V_{RWM} I_R(uA)	Maximun Peak Pulse Current I_{PPM}	Maximmum Clamping Voltage (V_C)atI_{PPM}	Device Marking code	
	Min	Max	mA	Volts	μA	Amps	Volts	UNI	BI
SMAJ5.0A(CA)	6.40	7.00	10	5.00	800	43.5	9.20	AE	WE
SMAJ6.0A(CA)	6.67	7.37	10	6.00	800	38.8	10.3	AG	WG
SMAJ6.5A(CA)	7.22	7.98	10	6.50	500	35.7	11.2	AK	WK
SMAJ7.0A(CA)	7.78	8.60	10	7.00	200	33.3	12.0	AM	WM
SMAJ7.5A(CA)	8.33	9.21	1.0	7.50	100	31.0	12.9	AP	WP
SMAJ8.0A(CA)	8.89	9.83	1.0	8.00	50	29.4	13.6	AR	WR
SMAJ8.5A(CA)	9.44	10.4	1.0	8.50	20	27.8	14.4	AT	WT
SMAJ9.0A(CA)	10.0	11.1	1.0	9.00	10	26.0	15.4	AV	WV
SMAJ10A(CA)	11.1	12.3	1.0	10.0	5.0	23.5	17.0	AX	WX
SMAJ11A(CA)	12.2	13.5	1.0	11.0	5.0	22.0	18.2	AZ	WZ
SMAJ12A(CA)	13.3	14.7	1.0	12.0	5.0	20.1	19.9	BE	XE
SMAJ13A(CA)	14.4	15.9	1.0	13.0	5.0	18.6	21.5	BG	XG
SMAJ14A(CA)	15.6	17.2	1.0	14.0	5.0	17.2	23.2	BK	XK
SMAJ15A(CA)	16.7	18.5	1.0	15.0	5.0	16.4	24.4	BM	XM
SMAJ16A(CA)	17.8	19.7	1.0	16.0	5.0	15.4	26.0	BP	XP
SMAJ17A(CA)	18.9	20.9	1.0	17.0	5.0	14.5	27.6	BR	XR
SMAJ18A(CA)	20.0	22.1	1.0	18.0	5.0	13.7	29.2	BT	XT
SMAJ20A(CA)	22.2	24.5	1.0	20.0	5.0	12.3	32.4	BV	XV
SMAJ22A(CA)	24.4	26.9	1.0	22.0	5.0	11.3	35.5	BX	XX
SMAJ24A(CA)	26.7	29.5	1.0	24.0	5.0	10.3	38.9	BZ	XZ
SMAJ26A(CA)	28.9	31.9	1.0	26.0	5.0	9.5	42.1	CE	YE
SMAJ28A(CA)	31.1	34.4	1.0	28.0	5.0	8.8	45.4	CG	YG
SMAJ30A(CA)	33.3	36.8	1.0	30.0	5.0	8.3	48.4	CK	YK
SMAJ33A(CA)	36.7	40.6	1.0	33.0	5.0	7.5	53.3	CM	YM
SMAJ36A(CA)	40.0	44.2	1.0	36.0	5.0	6.9	58.1	CP	YP
SMAJ40A(CA)	44.4	49.1	1.0	40.0	5.0	6.2	64.5	CR	YR
SMAJ43A(CA)	47.8	52.8	1.0	43.0	5.0	5.8	69.4	CT	YT
SMAJ45(CA)	50.0	55.3	1.0	45.0	5.0	5.5	72.7	CV	YV
SMAJ48A(CA)	53.3	58.9	1.0	48.0	5.0	5.2	77.4	CX	YX
SMAJ51A(CA)	56.7	62.7	1.0	51.0	5.0	4.9	82.4	CZ	YZ
SMAJ54A(CA)	60.0	66.3	1.0	54.0	5.0	4.6	87.1	RE	ZE
SMAJ58A(CA)	64.4	71.2	1.0	58.0	5.0	4.3	93.6	RG	ZG
SMAJ60A(CA)	66.7	73.7	1.0	60.0	5.0	4.1	96.8	RK	ZK
SMAJ64A(CA)	71.1	78.6	1.0	64.0	5.0	3.9	103	RM	ZM
SMAJ70A(CA)	77.8	86.0	1.0	70.0	5.0	3.5	113	RP	ZP
SMAJ75A(CA)	83.3	92.1	1.0	75.0	5.0	3.3	121	RR	ZR
SMAJ78A(CA)	86.7	95.8	1.0	78.0	5.0	3.2	126	RT	ZT
SMAJ85A(CA)	94.4	104	1.0	85.0	5.0	2.9	137	RV	ZV
SMAJ90A(CA)	100	111	1.0	90.0	5.0	2.7	146	RX	ZX
SMAJ100A(CA)	111	123	1.0	100	5.0	2.5	162	RZ	ZZ
SMAJ110A(CA)	122	135	1.0	110	5.0	2.3	177	SE	VE
SMAJ120A(CA)	133	147	1.0	120	5.0	2.1	193	SG	VG

For bidirectional type having Vrwm of 10 Volts and less. The IR limit is double.
For parts without A, the VBR is +/- 10%

RATINGS AND CHARACTERISTIC CURVES SMAJ5.0(A)(CA) THRU SMAJ(A)(CA)

TABLE 2

Device Type	Breakdown V_{BR} Voltage at I_T		Test Current I_T	Working Peak Reverse Voltage V_{RWM}	Maximun Reverse Leakage at V_{RWM} I_R(uA)	Maximun Peak Pulse Current I_{PPM}	Maximmum Clamping Voltage (V_C)atI_{PPM}	Device Marking code	
	Min	Max	mA	Volts	μA	Amps	Volts	UNI	BI
SMAJ130A(CA)	144	159	1.0	130.0	5.0	1.9	209.0	SK	VK
SMAJ150A(CA)	167	185	1.0	150.0	5.0	1.6	243.0	SM	VM
SMAJ160A(CA)	178	197	1.0	160.0	5.0	1.5	259.0	SP	VP
SMAJ170A(CA)	189	209	1.0	170.0	5.0	1.5	275.0	SR	VR
SMAJ180A(CA)	201	222	1.0	180.0	5.0	1.4	292.0	ST	VT
SMAJ200A(CA)	224	247	1.0	200.0	5.0	1.2	324.0	SV	VV
SMAJ220A(CA)	246	272	1.0	220.0	5.0	1.1	356.0	SX	VV
SMAJ250A(CA)	279	309	1.0	250.0	5.0	1.0	405.0	SZ	VZ
SMAJ300A(CA)	335	371	1.0	300.0	5.0	0.8	486.0	TE	UE
SMAJ350A(CA)	391	432	1.0	350.0	5.0	0.7	567.0	TG	UG
SMAJ400A(CA)	447	494	1.0	400.0	5.0	0.6	648.0	TK	UK
SMAJ440A(CA)	492	543	1.0	440.0	5.0	0.6	713.0	TM	UM

For bidirectional type having Vrwm of 10 Volts and less. The IR limit is double.
For parts without A, the VBR is +/- 10%