

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

VOLTAGE - 5.0 TO 440 VOLTS 400 WATT PEAK POWER

FEATURES:

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

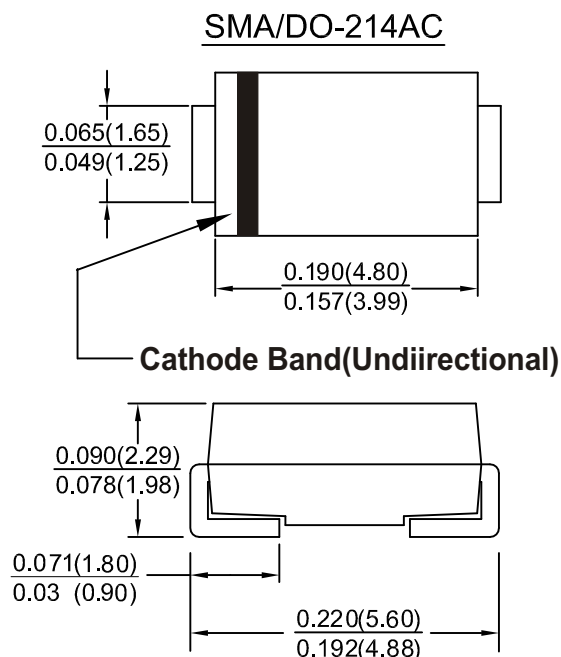
MECHANICAL DATA

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

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

Polarity: Cathode banded noted positive end(cathode) except Bidirectional

Weight: 0.064 grams



Suffix "A"
UNIDIRECTIONAL

Suffix "CA"
DIRECTIONAL

Dimensions in inches and (millimeters)

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 waveform (note1~2)	P_{PK}	400	W
Maximum peak pulse current of on 10/1000us waveform (note1,fig1)	I_{PPM}	SEE TABLE1~3	Amps
Maximum forward Surge current, 8.3ms Single Half Sine-Wave Superimposed on rated load (note2~ 3)	I_{FSM}	40	Amps
Operating and storage temperature range	T_J, T_{stg}	-55 to +150	°C

NOTES :

1. Non-repetitive current pulse, per Fig.1 and derated above $T_a = 25^\circ\text{C}$ per Fig.2

2. Mounted on 5.0mmx5.0mm copper pads to each terminal

3. Measured on 8.3ms Single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

5. For bi-directional devices, use suffix C or CA (e.g. SMAJ5.0C, SMAJ5.0CA). Electrical characteristics both directions.

Figure 1.-Pulse Waveform

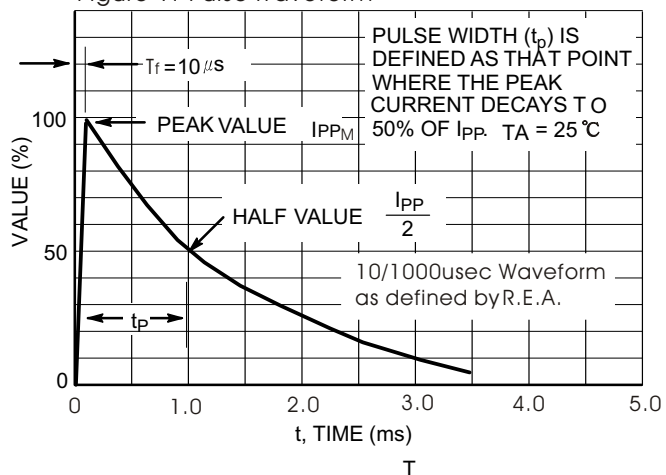


Figure 2.-Pulse Derating Cure

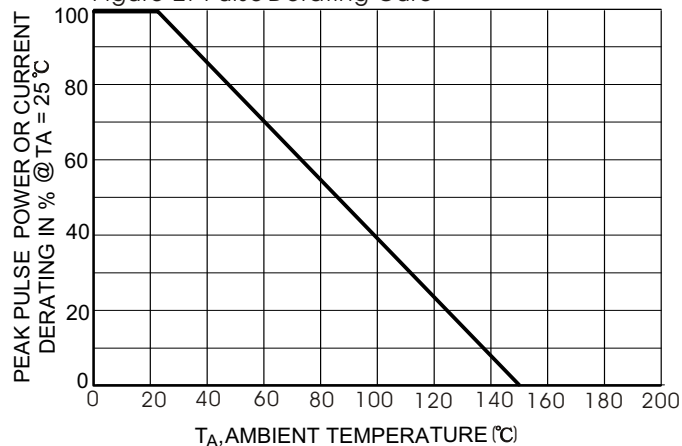
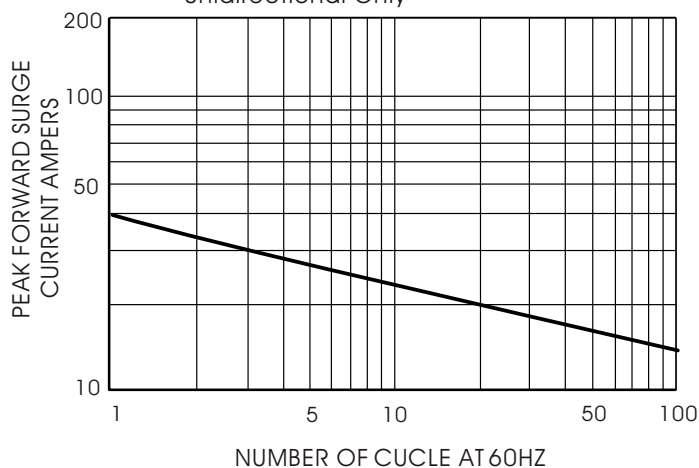


Figure 3.-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional Only



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

TABLE 1

Device Type	Breakdown VBR Voltage at I _T (Voltage)		Test Current I _T	Working Peak Reverse Voltage V _{RWM}	Maximum Reverse Leakage at V _{RWM} I _R (μ A)	Maximum Peak Pulse Current I _{PPM}	Maximum Clamping Voltage (V _c) at I _{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 V_{RWM} of 10 Volts and less. The I_R 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}	Maximum Reverse Leakage at V _{RWM} I _R (μ A)	Maximum Peak Pulse Current I _{PPM}	Maximum Clamping Voltage (V _c) at I _{PPM}	Device Marking code	
	Min	Max							
			mA	Volts	μ A	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 V_{RWM} of 10 Volts and less. The I_R limit is double.