

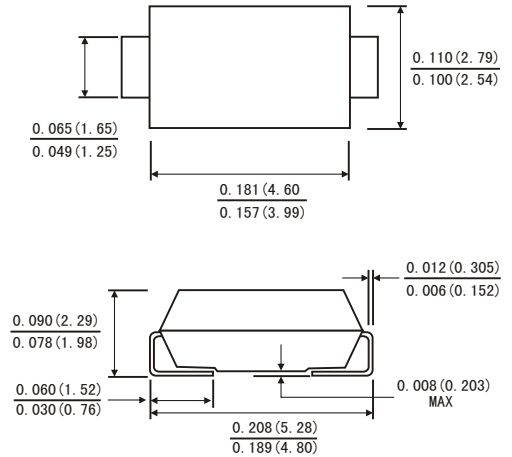


## FEATURES

- 400 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals



## SMA(DO-214AC)



## MECHANICAL DATA

- Case: JEDEC SMA(DO-214AC) molded plastic body
- Terminals: Solder Plated
- Polarity: Color band denotes cathode end
- Weight: 0.002ounce, 0.064 gram

## DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C or CA suffix for Types SMAJ5.0 through Types SMAJ170.
2. Electrical characteristics apply in both directions.

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25 °C ambient temperature unless otherwise specified)

	Symbols	Value	Units
Peak power dissipation at TA=25 °C, TP=1ms (Note 1.)	PPK	Min. 300	Watts
Steady state power dissipation at TJ=75 °C lead length 0.375" (9.5mm) (Note 2.)	PM	1.0	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 3.)	IFSM	40	Amps
Maximum instantaneous forward voltage at 35.0A for unidirectional only	VF	3.5	Volts
Operating junction and storage temperature range	TJ, TSTG	-55 to +175	°C

Note: 1. Non repetitive current pulse and derated above TA=25°C

2. Mounted on copper pads area of 0.2X0.2"(5X5mm)

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



TRANSIENT VOLTAGE SUPPRESSOR  
Reverse Voltage - 5. 0 to 170 Volts  
PEAK PULSE POWER-300 Watts

TYPE	Breakdown Voltage V <sub>(BR)</sub> (Volts)		Test Current IT (mA)	Reverse Stand off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leadage At V <sub>WM</sub> ID (uA)	Maximum Peak Pulse Current I <sub>ppm</sub> (Amps)	Maximum Clamping Voltage At I <sub>ppm</sub> V <sub>c</sub> (Volts)
	MIN	MAX					
SMAJ5.0	6.40	7.30	10.0	5.0	800	32.0	9.60
SMAJ5.0A	6.40	7.00	10.0	5.0	800	34.0	9.20
SMAJ6.0	6.67	8.15	10.0	6.0	800	27.6	11.4
SMAJ6.0A	6.67	7.37	10.0	6.0	800	30.5	10.3
SMAJ6.5	7.22	8.82	10.0	6.5	500	25.6	12.3
SMAJ6.5A	7.22	7.98	10.0	6.5	500	28.0	11.2
SMAJ7.0	7.78	9.51	10.0	7.0	200	23.6	13.3
SMAJ7.0A	7.78	8.60	10.0	7.0	200	26.0	12.0
SMAJ7.5	8.33	10.3	1.0	7.5	100	22.0	14.3
SMAJ7.5A	8.33	9.21	1.0	7.5	100	24.4	12.9
SMAJ8.0	8.89	10.9	1.0	8.0	50	21.0	15.0
SMAJ8.0A	8.89	9.83	1.0	8.0	50	23.0	13.6
SMAJ8.5	9.44	11.5	1.0	8.5	10	19.8	15.9
SMAJ8.5A	9.44	10.4	1.0	8.5	10	21.8	14.4
SMAJ9.0	10.0	12.2	1.0	9.0	5	18.6	16.9
SMAJ9.0A	10.0	11.1	1.0	9.0	5	20.4	15.4
SMAJ10	11.1	13.6	1.0	10.0	5	16.7	18.8
SMAJ10A	11.1	12.3	1.0	10.0	5	18.5	17.0
SMAJ11	12.2	14.9	1.0	11.0	5	15.6	20.1
SMAJ11A	12.2	13.5	1.0	11.0	5	17.3	18.2
SMAJ12	13.3	16.3	1.0	12.0	5	14.3	22.0
SMAJ12A	13.3	14.7	1.0	12.0	5	15.8	19.9
SMAJ13	14.4	17.6	1.0	13.0	5	13.0	23.8
SMAJ13A	14.4	15.9	1.0	13.0	5	14.6	21.5
SMAJ14	15.6	19.1	1.0	14.0	5	12.2	25.8
SMAJ14A	15.6	17.2	1.0	14.0	5	13.5	23.2
SMAJ15	16.7	20.4	1.0	15.0	5	11.7	26.9
SMAJ15A	16.7	18.5	1.0	15.0	5	12.9	24.4
SMAJ16	17.8	21.8	1.0	16.0	5	10.9	28.8
SMAJ16A	17.8	19.7	1.0	16.0	5	12.0	26.0
SMAJ17	18.9	23.1	1.0	17.0	5	10.3	30.5
SMAJ17A	18.9	20.9	1.0	17.0	5	11.4	27.6
SMAJ18	20.0	24.4	1.0	18.0	5	9.7	32.2
SMAJ18A	20.0	22.1	1.0	18.0	5	10.7	29.2
SMAJ20	22.2	27.1	1.0	20.0	5	8.7	35.8
SMAJ20A	22.2	24.5	1.0	20.0	5	9.7	32.4
SMAJ22	24.4	29.8	1.0	22.0	5	8.0	39.4
SMAJ22A	24.4	26.9	1.0	22.0	5	8.8	35.5
SMAJ24	26.7	32.6	1.0	24.0	5	7.3	43.0
SMAJ24A	26.7	29.5	1.0	24.0	5	8.0	38.9
SMAJ26	28.9	35.3	1.0	26.0	5	6.7	46.6
SMAJ26A	28.9	31.9	1.0	26.0	5	7.4	42.1
SMAJ28	31.1	38.0	1.0	28.0	5	6.3	50.0
SMAJ28A	31.1	34.4	1.0	28.0	5	6.9	45.4
SMAJ30	33.3	40.7	1.0	30.0	5	5.8	53.5
SMAJ30A	33.3	36.8	1.0	30.0	5	6.5	



TYPE	Breakdown Voltage V <sub>(BR)</sub> (Volts)		Test Current I <sub>T</sub> (mA)	Reverse Stand off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leadage At V <sub>WM</sub> I <sub>D</sub> (uA)	Maximum Peak Pulse Current I <sub>ppm</sub> (Amps)	Maximum Clamping Voltage At I <sub>ppm</sub> V <sub>C</sub> (Volts)
	MIN	MAX					
SMAJ33	36.7	44.9	1.0	33.0	5	5.3	59.0
SMAJ33A	36.7	40.6	1.0	33.0	5	5.9	53.3
SMAJ36	40.0	48.9	1.0	36.0	5	4.8	64.3
SMAJ36A	40.0	44.2	1.0	36.0	5	5.4	58.1
SMAJ40	44.4	54.3	1.0	40.0	5	4.4	71.4
SMAJ40A	44.4	49.1	1.0	40.0	5	4.8	64.5
SMAJ43	47.8	58.4	1.0	43.0	5	4.0	76.7
SMAJ43A	47.8	52.8	1.0	43.0	5	4.5	69.4
SMAJ45	50.0	61.1	1.0	45.0	5	3.9	80.3
SMAJ45A	50.0	55.3	1.0	45.0	5	4.3	72.7
SMAJ48	53.3	65.1	1.0	48.0	5	3.6	85.5
SMAJ48A	53.3	58.9	1.0	48.0	5	4.0	77.4
SMAJ51	56.7	69.3	1.0	51.0	5	3.4	91.1
SMAJ51A	56.7	62.7	1.0	51.0	5	3.8	82.4
SMAJ54	60.0	73.3	1.0	54.0	5	3.2	96.3
SMAJ54A	60.0	66.3	1.0	54.0	5	3.6	87.1
SMAJ58	64.4	78.7	1.0	58.0	5	3.0	103
SMAJ58A	64.4	71.2	1.0	58.0	5	3.3	93.6
SMAJ60	66.7	81.5	1.0	60.0	5	2.9	107
SMAJ60A	66.7	73.7	1.0	60.0	5	3.2	96.8
SMAJ64	71.1	86.9	1.0	64.0	5	2.7	114
SMAJ64A	71.1	78.6	1.0	64.0	5	3.0	103
SMAJ70	77.8	95.1	1.0	70.0	5	2.5	125
SMAJ70A	77.8	86.0	1.0	70.0	5	2.7	113
SMAJ75	83.3	102	1.0	75.0	5	2.3	134
SMAJ75A	83.3	92.1	1.0	75.0	5	2.6	121
SMAJ78	86.7	106	1.0	78.0	5	2.2	139
SMAJ78A	86.7	95.8	1.0	78.0	5	2.5	126
SMAJ85	94.4	115	1.0	85.0	5	2.0	151
SMAJ85A	94.4	104	1.0	85.0	5	2.2	137
SMAJ90	100	122	1.0	90.0	5	1.9	160
SMAJ90A	100	111	1.0	90.0	5	2.1	146
SMAJ100	111	136	1.0	100	5	1.7	179
SMAJ100A	111	123	1.0	100	5	1.9	162
SMAJ110	122	149	1.0	110	5	1.6	196
SMAJ110A	122	135	1.0	110	5	1.7	177
SMAJ120	133	163	1.0	120	5	1.4	214
SMAJ120A	133	147	1.0	120	5	1.6	193
SMAJ130	144	176	1.0	130	5	1.3	231
SMAJ130A	144	159	1.0	130	5	1.5	209
SMAJ150	167	204	1.0	150	5	1.1	268
SMAJ150A	167	185	1.0	150	5	1.3	243
SMAJ160	178	218	1.0	160	5	1.0	287
SMAJ160A	178	197	1.0	160	5	1.2	259
SMAJ170	189	231	1.0	170	5	1.0	304
SMAJ170A	189	209	1.0	170	5	1.1	275

Notes: 1. V<sub>(BR)</sub> measured after I<sub>T</sub> applied for 300μS, I<sub>T</sub>=square wave pulse or equivalent.

2. For bidirectional types having V<sub>WM</sub> of 10 Volts and less, The I<sub>D</sub> limit is doubled.



FIG. 1-PEAK PULSE POWER CURVE

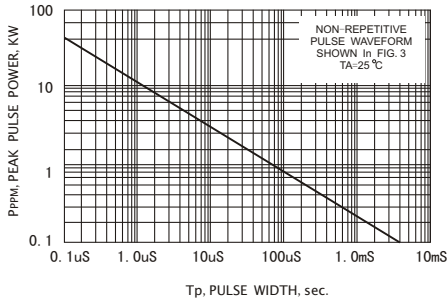


FIG. 2-PULSE DERATING CURVE

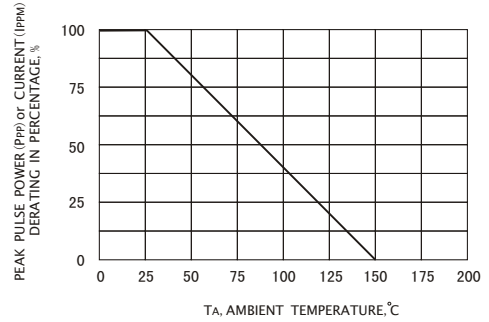


FIG. 3-PULSE WAVEFORM

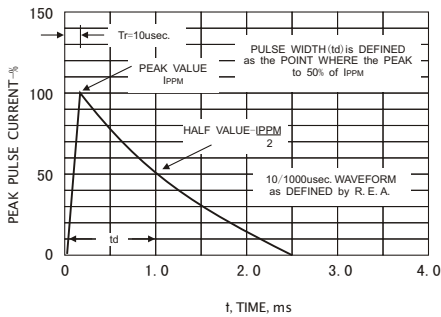


FIG. 4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

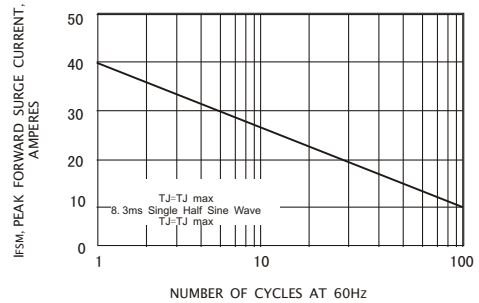


FIG. 5-TYPICAL JUNCTION CAPACITANCE

