



DATA SHEET

SA5.0~SA220CA

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

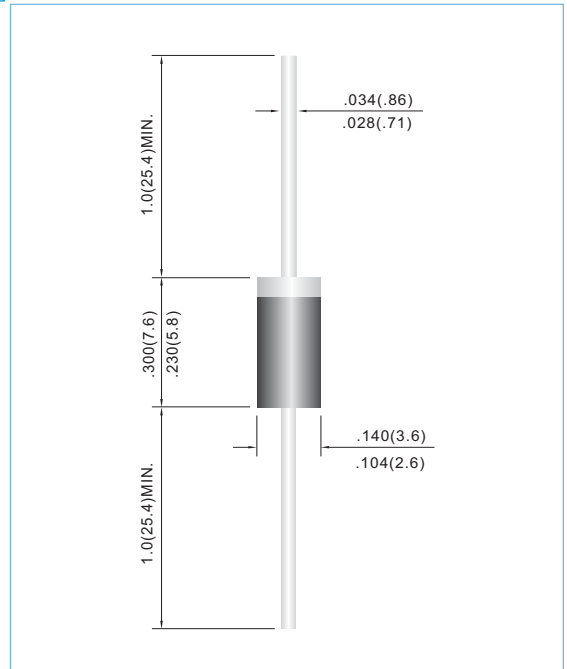
VOLTAGE	5.0 to 220 Volts	POWER	500 Watts	DO-15	Unit: inch(mm)
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FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction in DO-15 package
- 500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical IR less than 1μA above 10V
- High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead length/5lbs., (2.3kg) tension
- Pb free product are available 99% Sn above can meet Rohs environment substance directive request

MECHANICAL DATA

Case: JEDEC DO-15 molded plastic
 Terminals: Axial leads, solderable per MIL-STD-202G, Method 208
 Polarity: Color band denoted cathode except Bipolar
 Mounting Position: Any
 Weight: 0.015 ounce, 0.4 gram



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
 For Capacitive load derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note 1, Fig.1)	P_{PPM}	Minimum Max 500	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1, Fig.3)	I_{PPM}	SEE TABLE 1	Amps
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375", (9.5mm) (Note 2)	$P_{M(AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3)	I_{FSM}	70	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

NOTES:

- 1.Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 2.
- 2.Mounted on Copper Leaf area of 1.57in²(40mm²).
- 3.8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.



PartNumber	V _{RWM}	V _{BR} @ I _r			I _r @ V _{RWM}		V _c @ I _p		PACKAGE
		Min.	Max.	I _r	UNI-	BI-	V	A	
		V	V	mA	uA	uA			
500W Transient Voltage Suppressor									
SA5.0(C)	5.0	6.40	7.55	10	600	1200	9.6	52.3	DO-15
SA5.0(C)A	5.0	6.40	7.25	10	600	1200	9.2	54.3	DO-15
SA6.0(C)	6.0	6.67	8.45	10	600	1200	11.4	43.9	DO-15
SA6.0(C)A	6.0	6.67	7.67	10	600	1200	10.3	48.5	DO-15
SA6.5(C)	6.5	7.22	9.14	10	400	800	12.3	40.7	DO-15
SA6.5(C)A	6.5	7.22	8.30	10	400	800	11.2	44.7	DO-15
SA7.0(C)	7.0	7.78	9.86	10	150	300	13.3	37.8	DO-15
SA7.0(C)A	7.0	7.78	8.95	10	150	300	12.0	41.7	DO-15
SA7.5(C)	7.5	8.33	10.67	1.0	50	100	14.3	35.0	DO-15
SA7.5(C)A	7.5	8.33	9.58	1.0	50	100	12.9	38.8	DO-15
SA8.0(C)	8.0	8.89	11.30	1.0	25	50	15.0	33.3	DO-15
SA8.0(C)A	8.0	8.89	10.23	1.0	25	50	13.6	36.7	DO-15
SA8.5(C)	8.5	9.44	11.92	1.0	10	20	15.9	31.4	DO-15
SA8.5(C)A	8.5	9.44	10.82	1.0	10	20	14.4	34.7	DO-15
SA9.0(C)	9.0	10.0	12.6	1.0	5	5	16.9	29.5	DO-15
SA9.0(C)A	9.0	10.0	11.5	1.0	5	5	15.4	32.5	DO-15
SA10(C)	10	11.1	14.1	1.0	3	3	18.8	26.6	DO-15
SA10(C)A	10	11.1	12.8	1.0	3	3	17.0	29.4	DO-15
SA11(C)	11	12.2	15.4	1.0	3	3	20.1	24.9	DO-15
SA11(C)A	11	12.2	14.0	1.0	3	3	18.2	27.4	DO-15
SA12(C)	12	13.3	16.9	1.0	3	3	22.0	22.7	DO-15
SA12(C)A	12	13.3	15.3	1.0	3	3	19.9	25.1	DO-15
SA13(C)	13	14.4	18.2	1.0	3	3	23.8	21.0	DO-15
SA13(C)A	13	14.4	16.5	1.0	3	3	21.5	23.2	DO-15
SA14(C)	14	15.6	19.8	1.0	3	3	25.8	19.4	DO-15
SA14(C)A	14	15.6	17.9	1.0	3	3	23.2	21.5	DO-15
SA15(C)	15	16.7	21.1	1.0	3	3	26.9	18.8	DO-15
SA15(C)A	15	16.7	19.2	1.0	3	3	24.4	20.6	DO-15
SA16(C)	16	17.8	22.6	1.0	3	3	28.8	17.6	DO-15
SA16(C)A	16	17.8	20.5	1.0	3	3	26.0	19.2	DO-15
SA17(C)	17	18.9	23.9	1.0	3	3	30.5	16.4	DO-15
SA17(C)A	17	18.9	21.7	1.0	3	3	27.6	16.1	DO-15
SA18(C)	18	20.0	25.3	1.0	3	3	32.2	15.5	DO-15
SA18(C)A	18	20.0	23.3	1.0	3	3	29.2	17.2	DO-15
SA20(C)	20	22.2	28.1	1.0	3	3	35.8	13.9	DO-15
SA20(C)A	20	22.2	25.5	1.0	3	3	32.4	15.4	DO-15
SA22(C)	22	24.4	30.9	1.0	3	3	39.4	12.7	DO-15
SA22(C)A	22	24.4	28.0	1.0	3	3	35.5	14.1	DO-15
SA24(C)	24	26.7	33.8	1.0	3	3	43.0	11.6	DO-15
SA24(C)A	24	26.7	30.7	1.0	3	3	38.9	12.8	DO-15
SA26(C)	26	28.9	36.6	1.0	3	3	46.6	10.7	DO-15
SA26(C)A	26	28.9	33.2	1.0	3	3	42.1	11.9	DO-15
SA28(C)	28	31.1	39.4	1.0	3	3	50.0	9.9	DO-15
SA28(C)A	28	31.1	35.8	1.0	3	3	45.4	11.0	DO-15
SA30(C)	30	33.3	42.2	1.0	3	3	53.5	9.3	DO-15
SA30(C)A	30	33.3	38.3	1.0	3	3	48.4	10.3	DO-15
SA33(C)	33	36.7	46.5	1.0	3	3	59.0	5.8	DO-15
SA33(C)A	33	36.7	42.2	1.0	3	3	53.3	9.4	DO-15
SA36(C)	36	40.0	50.7	1.0	3	3	64.3	7.8	DO-15
SA36(C)A	36	40.0	46.0	1.0	3	3	58.1	8.6	DO-15
SA40(C)	40	44.4	56.3	1.0	3	3	71.4	7.0	DO-15
SA40(C)A	40	44.4	51.1	1.0	3	3	64.5	7.8	DO-15



Part Number	V _{RWM}	V _{BR} @ I _T			I _T @ V _{RWM}		V _C @ I _{FP}		PACKAGE
		Min.	Max.	I _T	UNI-	BI-	V	A	
		V	V	mA	uA	uA			
500W Transient Voltage Suppressor									
SA43(C)	43	47.8	60.5	1.0	3	3	76.7	6.5	DO-15
SA43(C)A	43	47.8	54.9	1.0	3	3	69.4	7.2	DO-15
SA45(C)	45	50.0	63.3	1.0	3	3	80.3	6.2	DO-15
SA45(C)A	45	50.0	57.5	1.0	3	3	72.7	6.9	DO-15
SA48(C)	48	53.3	67.5	1.0	3	3	85.5	5.8	DO-15
SA48(C)A	48	53.3	61.3	1.0	3	3	77.4	6.5	DO-15
SA51(C)	51	56.7	71.8	1.0	3	3	91.1	5.5	DO-15
SA51(C)A	51	56.7	65.2	1.0	3	3	82.4	6.1	DO-15
SA54(C)	54	60.0	76.0	1.0	3	3	96.3	5.2	DO-15
SA54(C)A	54	60.0	69.0	1.0	3	3	87.1	5.7	DO-15
SA58(C)	58	64.4	81.6	1.0	3	3	103	4.9	DO-15
SA58(C)A	58	64.4	74.1	1.0	3	3	93.6	5.3	DO-15
SA60(C)	60	66.7	84.5	1.0	3	3	107	4.7	DO-15
SA60(C)A	60	66.7	76.7	1.0	3	3	96.8	5.2	DO-15
SA64(C)	64	71.1	90.1	1.0	3	3	114	4.4	DO-15
SA64(C)A	64	71.1	81.8	1.0	3	3	103	4.9	DO-15
SA70(C)	70	77.8	98.6	1.0	3	3	125	4.0	DO-15
SA70(C)A	70	77.8	89.5	1.0	3	3	113	4.4	DO-15
SA75(C)	75	83.3	105.7	1.0	3	3	134	3.7	DO-15
SA75(C)A	75	83.3	95.8	1.0	3	3	121	4.1	DO-15
SA78(C)	78	86.7	109.8	1.0	3	3	139	3.6	DO-15
SA78(C)A	78	86.7	99.7	1.0	3	3	126	4.0	DO-15
SA85(C)	85	94.4	119.2	1.0	3	3	151	3.3	DO-15
SA85(C)A	85	94.4	108.2	1.0	3	3	137	3.6	DO-15
SA90(C)	90	100	126.5	1.0	3	3	160	3.1	DO-15
SA90(C)A	90	100	115.5	1.0	3	3	146	3.4	DO-15
SA100(C)	100	111	141.0	1.0	3	3	179	2.8	DO-15
SA100(C)A	100	111	128.0	1.0	3	3	162	3.1	DO-15
SA110(C)	110	122	154.5	1.0	3	3	196	2.6	DO-15
SA110(C)A	110	122	140.5	1.0	3	3	177	2.8	DO-15
SA120(C)	120	133	169.0	1.0	3	3	214	2.3	DO-15
SA120(C)A	120	133	153.0	1.0	3	3	193	2.0	DO-15
SA130(C)	130	144	182.5	1.0	3	3	231	2.2	DO-15
SA130(C)A	130	144	165.5	1.0	3	3	209	2.4	DO-15
SA150(C)	150	167	211.5	1.0	3	3	268	1.9	DO-15
SA150(C)A	150	167	192.5	1.0	3	3	243	2.1	DO-15
SA160(C)	160	178	226.0	1.0	3	3	287	1.7	DO-15
SA160(C)A	160	178	205.0	1.0	3	3	259	1.9	DO-15
SA170(C)	170	189	239.5	1.0	3	3	304	1.6	DO-15
SA170(C)A	170	189	217.5	1.0	3	3	275	1.8	DO-15
SA180(C)	180	198	253.8	1.0	3	3	322	1.6	DO-15
SA180(C)A	180	198	230.4	1.0	3	3	292	1.7	DO-15
SA190(C)	190	209	267.9	1.0	3	3	340	1.5	DO-15
SA190(C)A	190	209	243.2	1.0	3	3	308	1.6	DO-15
SA200(C)	200	220	282.0	1.0	3	3	358	1.4	DO-15
SA200(C)A	200	220	256.0	1.0	3	3	324	1.5	DO-15
SA210(C)	210	231	296.1	1.0	3	3	376	1.3	DO-15
SA210(C)A	210	231	268.8	1.0	3	3	340	1.5	DO-15
SA220(C)	220	242	310.2	1.0	3	3	394	1.3	DO-15
SA220(C)A	220	242	281.6	1.0	3	3	356	1.4	DO-15

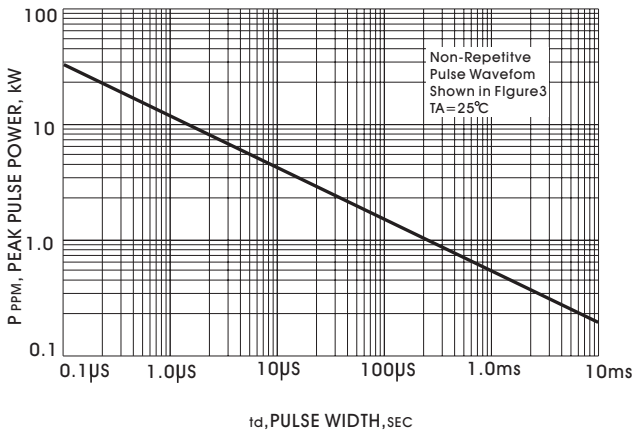


FIGURE 1-PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE

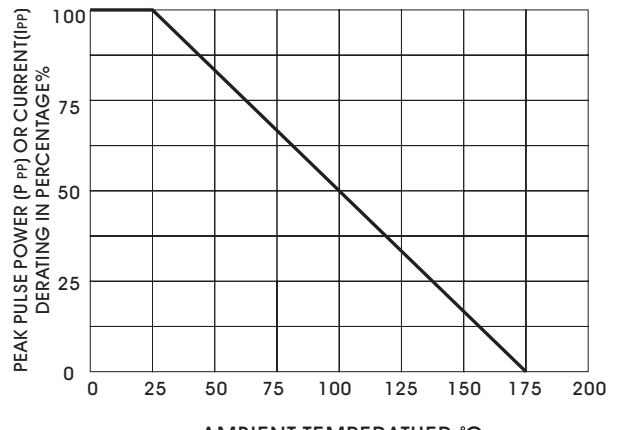


FIGURE 2-PULSE DERATING CURVE

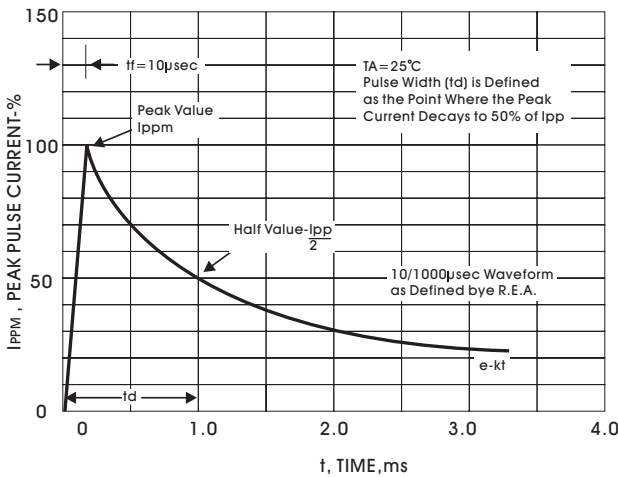


FIGURE 3-PULSE WAVEFORM

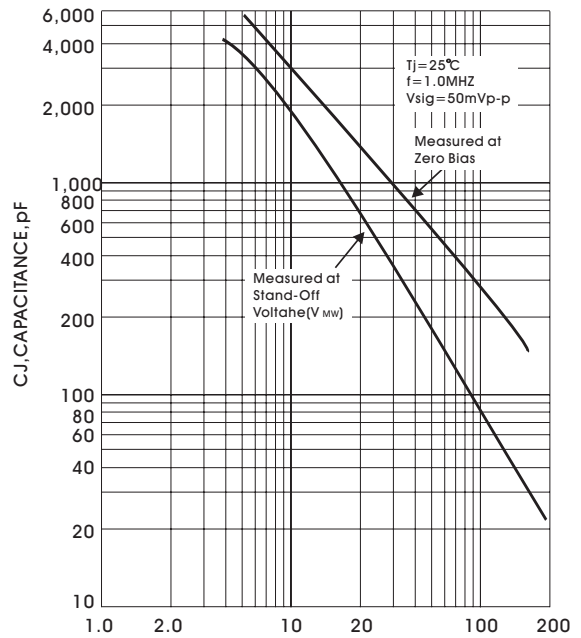


FIG. 4-TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

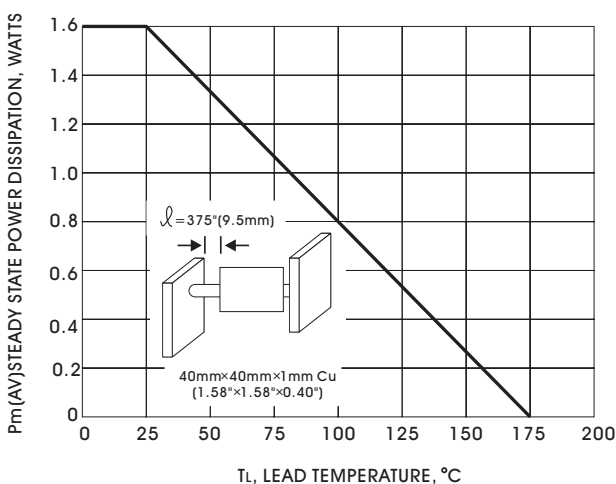


FIG. 5-STEADY STATE POWER DERATING CURVE

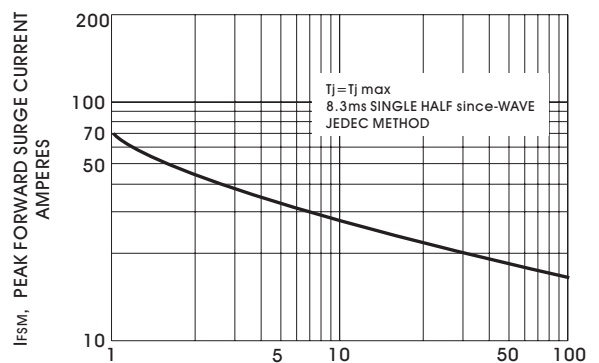


FIG. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL