



SA5.0(C)A THRU SA170(C)A

Breakdown Voltage:5.0-170 Volts Peak Pulse Power:500 Watts

GLASS PASSIVAED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

Features

- ◆ 500w peak pulse power capability
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time:typically less than 1.0ps from 0v to VBR for unidirectional and 5.0ns ror bidirectional types.
- ◆ High temperature soldering guaranteed:
265°C /10S/9.5mm lead length at 5 lbs tension

Mechanical Data

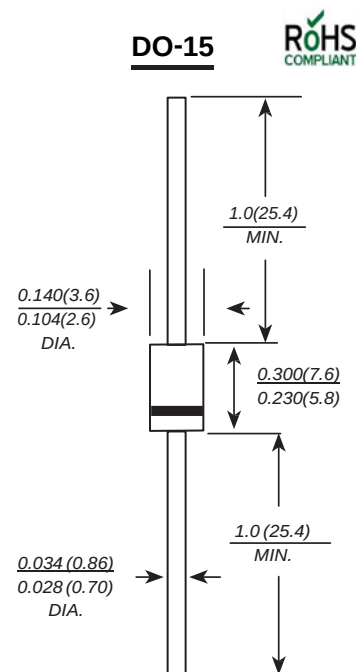
Case : JEDEC DO-15 Molded plastic body

Terminals : Solder plated, solderable per MIL-STD-750,Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.014 ounce, 0.40 grams



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unls otherwise specified.

	SYMBOLS	VALUE	UNITS
Peak power dissipation	P _{ppm}	Minimum 500	Watts
Peak pulse reverse current	I _{PPM}	See Table 1	Amps
Steady state power dissipation (Note 2)	P _{M(AV)}	1.6	Watts
Peak forward surge current	I _{FSM}	70	Amps
Maximum instantaneous forward voltage at 35A for unidirectional only (Note 3)	V _F	3.5	Volts
Operating junction and storage temperature range	T _{STG} , T _J	-55 to + 175	°C

Notes:

- 1.10/1000μs waveform non-repetitive current pulse,per Fig.3 and derated above Ta=25 °Cper Fig.2
- 2.T_L=75°C,lead lengths 9.5mm,Mounted on copper pad atea of (40x40mm)Fig.5
- 3.Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.



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ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Device Type	Breakdown Voltage V _(BR) (Volts)(NOTES 1)		Test Current I _T (mA)	Stand-off Voltage V _{WM} (Volts)	Maximum Reverse Leakage at V _{WM} I _D (NOTE3)(μA)	Maximum Peak Pulse Reverse Current I _{PPM} (NOTE2) (Amps)	Maximum Clamping Voltage at I _{PPM} V _C (Volts)	Maximum Temperature Coefficient of V _(BR) (mv/°C)
	MIN	MAX						
SA5.0(C)A	6.40	7.00	10	5.0	600	54.3	9.2	5.0
SA6.0(C)A	6.67	7.37	10	6.0	600	48.5	10.3	5.0
SA6.5(C)A	7.22	7.98	10	6.5	400	44.7	11.2	5.0
SA7.0(C)A	7.78	8.60	10	7.0	150	41.7	12.0	6.0
SA7.5(C)A	8.33	9.21	1.0	7.5	50	38.8	12.9	7.0
SA8.0(C)A	8.89	9.83	1.0	8.0	25	36.8	13.6	7.0
SA8.5(C)A	9.44	10.40	1.0	8.5	10	34.7	14.4	8.0
SA9.0(C)A	10.00	11.10	1.0	9.0	5.0	32.5	15.4	9.0
SA10(C)A	11.10	12.30	1.0	10.00	1.0	29.4	17.0	10.0
SA11(C)A	12.20	13.50	1.0	11.00	1.0	27.5	18.2	11.0
SA12(C)A	13.30	14.70	1.0	12.00	1.0	25.1	19.9	12.0
SA13(C)A	14.40	15.90	1.0	13.00	1.0	23.3	21.5	13.0
SA14(C)A	15.60	17.20	1.0	14.00	1.0	21.6	23.2	14.0
SA15(C)A	16.70	18.50	1.0	15.00	1.0	20.5	24.4	16.0
SA16(C)A	17.80	19.70	1.0	16.00	1.0	19.2	26.0	17.0
SA17(C)A	18.90	20.90	1.0	17.00	1.0	18.1	27.6	19.0
SA18(C)A	20.00	22.10	1.0	18.00	1.0	17.1	29.2	20.0
SA20(C)A	22.20	24.50	1.0	20.00	1.0	15.4	32.4	23.0
SA22(C)A	24.40	26.90	1.0	22.00	1.0	14.1	35.5	25.0
SA24(C)A	26.70	29.50	1.0	24.00	1.0	12.9	38.9	28.0
SA26(C)A	28.90	31.90	1.0	26.00	1.0	11.9	42.1	30.0
SA28(C)A	31.10	34.40	1.0	28.00	1.0	11.0	45.4	31.0
SA30(C)A	33.30	36.80	1.0	30.00	1.0	10.0	48.4	36.0
SA33(C)A	36.70	40.60	1.0	33.00	1.0	9.4	53.3	39.0
SA36(C)A	40.00	44.20	1.0	36.00	1.0	58.1	8.6	41.0
SA40(C)A	44.40	49.10	1.0	40.00	1.0	64.5	7.8	46.0
SA43(C)A	47.80	52.80	1.0	43.00	1.0	69.4	7.2	50.0
SA45(C)A	50.00	55.30	1.0	45.00	1.0	72.7	6.9	52.0
SA48(C)A	53.30	58.90	1.0	48.00	1.0	77.4	6.5	56.0
SA51(C)A	56.70	62.70	1.0	51.00	1.0	82.4	6.1	61.0
SA54(C)A	60.00	66.30	1.0	54.00	1.0	87.1	5.7	65.0
SA58(C)A	64.40	71.20	1.0	58.00	1.0	93.6	5.3	70.0
SA60(C)A	66.70	73.70	1.0	60.00	1.0	96.8	5.2	71.0
SA64(C)A	71.10	78.60	1.0	64.00	1.0	103.0	4.9	76.0
SA70(C)A	77.80	86.00	1.0	70.00	1.0	113.0	4.4	85.0
SA75(C)A	83.30	92.10	1.0	75.00	1.0	121.0	4.1	91.0
SA78(C)A	86.70	95.80	1.0	78.00	1.0	126.0	4.0	95.0
SA85(C)A	94.40	104.00	1.0	85.00	1.0	137.0	3.6	103
SA90(C)A	100.00	111.00	1.0	90.00	1.0	146.0	3.4	111
SA100(C)A	111.00	123.00	1.0	100.00	1.0	162.0	3.1	123
SA110(C)A	122.00	135.00	1.0	110.00	1.0	177.0	2.8	133
SA120(C)A	133.00	147.00	1.0	120.00	1.0	193.0	2.6	146
SA130(C)A	144.00	159.00	1.0	130.00	1.0	209.0	2.4	158
SA150(C)A	167.00	185.00	1.0	150.00	1.0	243.0	2.1	184
SA160(C)A	178.00	197.00	1.0	160.00	1.0	259.0	1.9	196
SA170(C)A	189.00	209.00	1.0	170.00	1.0	275.0	1.8	208

NOTES:

1. V_(BR) measured after I_T applied for 300μs, I_T=square wave pulse or equivalent
2. Surge current waveform per Fig.3 and derated per Fig.2
3. For bidirectional types having V_{WM} of 10 volts and less, the I_D limit is doubled
4. All items and symbols are consistent with ANSI/IEEE C62.35



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Typical Characteristics

FIG. 1-PEAK PULSE POWER RATING CURVE

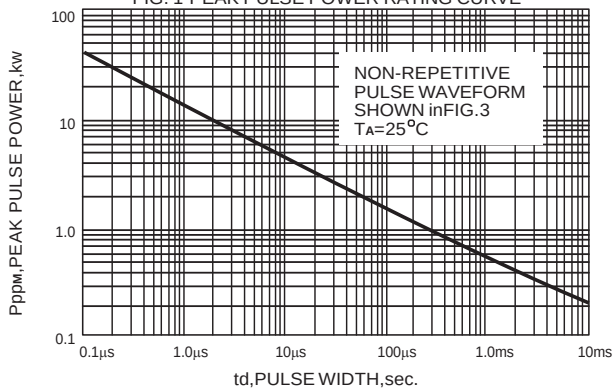


FIG. 2-PULSE DERATING CURVE

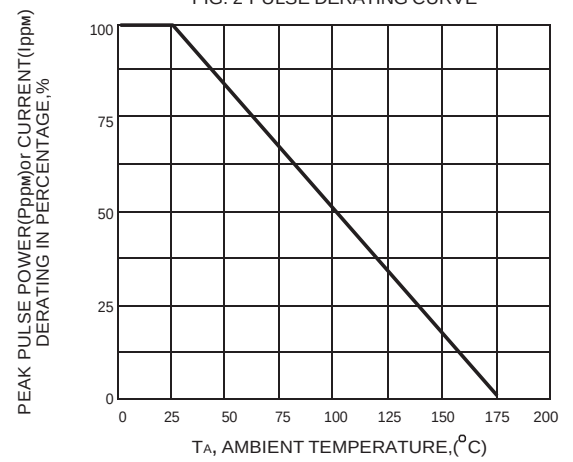


FIG. 3-PULSE WAVEFORM

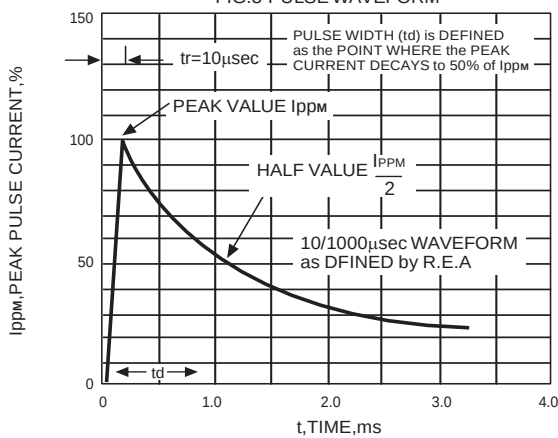


FIG. 4-TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

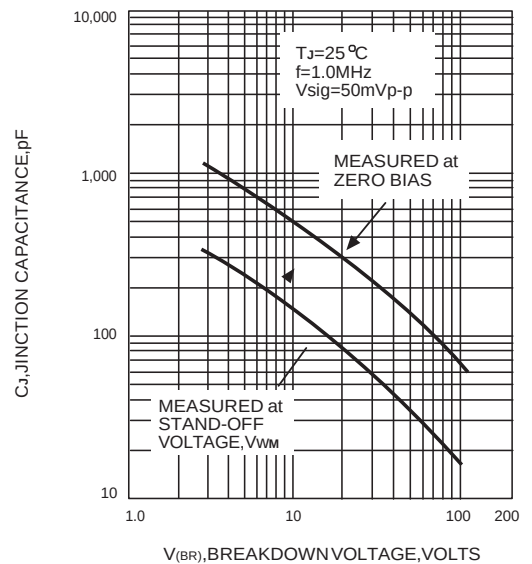


FIG. 5-STEADY STATE POWER DERATING CURVE

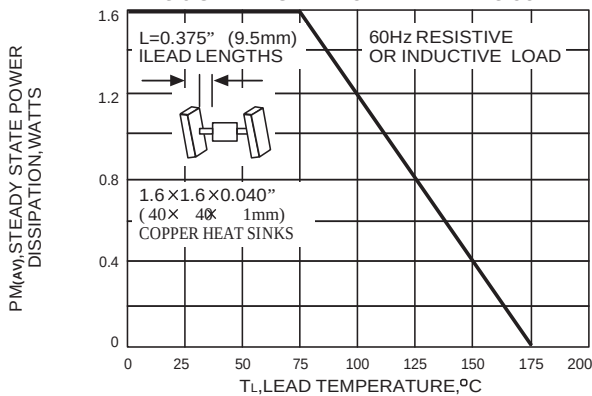


FIG. 7-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

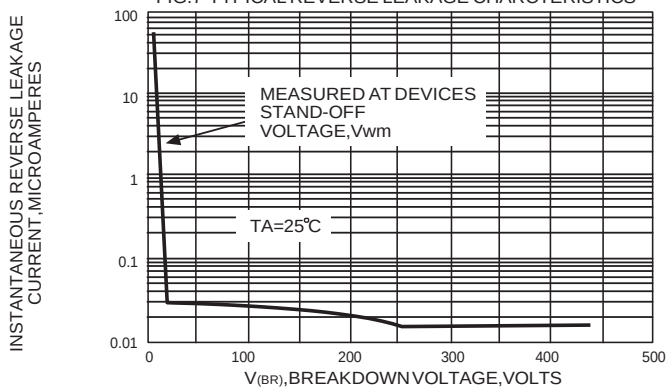
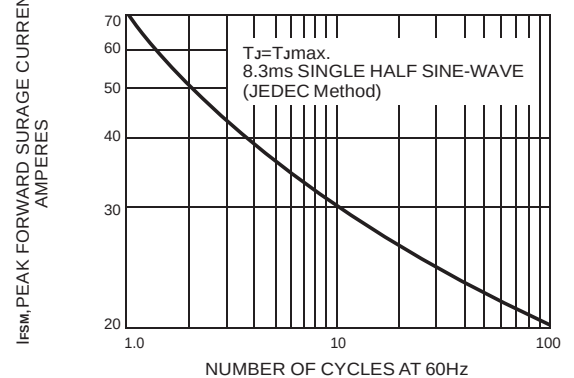


FIG. 6-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY



The curve characteristics above is for reference only.