

Surface Mount Transient Voltage Suppressor Rectifiers Reverse

Voltage 5.0 ~ 550 V

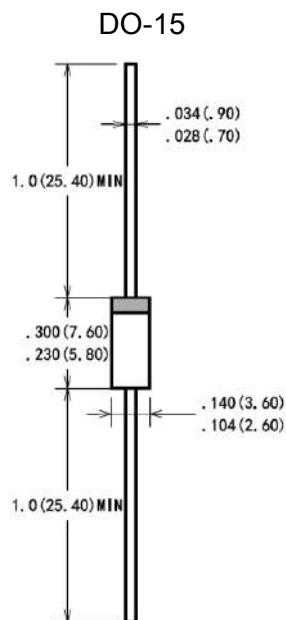
500 Watt Peak Pulse Power

Features:

- Glass passivated chip
- 500 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

Mechanical Data:

- Case: DO-15 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



Unit: inch (mm)

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	500	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sinewave	I_{FSM}	80	A
Maximum instantaneous forward voltage at 50 A for unidirectional only ⁽³⁾	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note:

- 1) Non-repetitive current pulse per Fig.5 and derated above $T_A = 25^\circ\text{C}$ per Fig.1 ;
- 2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;
- 3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 6.5\text{V}$ for devices of $V_{BR} > 201\text{V}$.

Part Number		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C MAX}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SA5.0A	SA5.0CA	5.0	6.40	7.00	10	9.2	54.35	800
SA6.0A	SA6.0CA	6.0	6.67	7.37	10	10.3	48.54	800
SA6.5A	SA6.5CA	6.5	7.22	7.98	10	11.2	44.64	500
SA7.0A	SA7.0CA	7.0	7.78	8.60	10	12.0	41.67	200
SA7.5A	SA7.5CA	7.5	8.33	9.21	1	12.9	38.76	100
SA8.0A	SA8.0CA	8.0	8.89	9.83	1	13.6	36.76	50
SA8.5A	SA8.5CA	8.5	9.44	10.40	1	14.4	34.72	20
SA9.0A	SA9.0CA	9.0	10.00	11.10	1	15.4	32.47	10
SA10A	SA10CA	10.0	11.10	12.30	1	17.0	29.41	5
SA11A	SA11CA	11.0	12.20	13.50	1	18.2	27.47	1
SA12A	SA12CA	12.0	13.30	14.70	1	19.9	25.13	1
SA13A	SA13CA	13.0	14.40	15.90	1	21.5	23.26	1
SA14A	SA14CA	14.0	15.60	17.20	1	23.2	21.55	1
SA15A	SA15CA	15.0	16.70	18.50	1	24.4	20.49	1
SA16A	SA16CA	16.0	17.80	19.70	1	26.0	19.23	1
SA17A	SA17CA	17.0	18.90	20.90	1	27.6	18.12	1
SA18A	SA18CA	18.0	20.00	22.10	1	29.2	17.12	1
SA20A	SA20CA	20.0	22.20	24.50	1	32.4	15.43	1
SA22A	SA22CA	22.0	24.40	26.90	1	35.5	14.08	1
SA24A	SA24CA	24.0	26.70	29.50	1	38.9	12.85	1
SA26A	SA26CA	26.0	28.90	31.90	1	42.1	11.88	1
SA28A	SA28CA	28.0	31.10	34.40	1	45.4	11.01	1
SA30A	SA30CA	30.0	33.50	36.80	1	48.4	10.33	1
SA33A	SA33CA	33.0	36.70	40.60	1	53.3	9.38	1
SA36A	SA36CA	36.0	40.00	44.20	1	58.1	8.61	1
SA40A	SA40CA	40.0	44.40	49.10	1	64.5	7.75	1
SA43A	SA43CA	43.0	47.80	52.80	1	69.4	7.20	1
SA45A	SA45CA	45.0	50.00	55.30	1	72.7	6.88	1
SA48A	SA48CA	48.0	53.30	58.90	1	77.4	6.46	1
SA51A	SA51CA	51.0	56.70	62.70	1	82.4	6.07	1
SA54A	SA54CA	54.0	60.00	66.30	1	87.1	5.74	1
SA58A	SA58CA	58.0	64.40	71.20	1	93.6	5.34	1
SA60A	SA60CA	60.0	66.70	73.70	1	96.8	5.17	1
SA64A	SA64CA	64.0	71.10	78.60	1	103.0	4.85	1
SA70A	SA70CA	70.0	77.80	86.00	1	113.0	4.42	1
SA75A	SA75CA	75.0	83.30	92.10	1	121.0	4.13	1
SA78A	SA78CA	78.0	86.70	95.80	1	126.0	3.97	1
SA85A	SA85CA	85.0	94.4	104.0	1	137.0	3.65	1
SA90A	SA90CA	90.0	100.0	111.0	1	146.0	3.42	1
SA100A	SA100CA	100.0	111.0	123.0	1	162.0	3.09	1
SA110A	SA110CA	110.0	122.0	135.0	1	177.0	2.82	1
SA120A	SA120CA	120.0	133.0	147.0	1	193.0	2.59	1
SA130A	SA130CA	130.0	144.0	159.0	1	209.0	2.39	1
SA150A	SA150CA	150.0	167.0	185.0	1	243.0	2.06	1
SA160A	SA160CA	160.0	178.0	197.0	1	259.0	1.93	1
SA170A	SA170CA	170.0	189.0	209.0	1	275.0	1.82	1
SA180A	SA180CA	180.0	201.0	222.0	1	292.0	1.71	1
SA190A	SA190CA	190.0	209.0	243.0	1	308.0	1.62	1
SA200A	SA200CA	200.0	224.0	247.0	1	324.0	1.54	1
SA210A	SA210CA	210.0	231.0	268.0	1	340.0	1.47	1
SA220A	SA220CA	220.0	246.0	272.0	1	356.0	1.40	1
SA250A	SA250CA	250.0	279.0	309.0	1	405.0	1.23	1
SA300A	SA300CA	300.0	335.0	371.0	1	486.0	1.03	1
SA350A	SA350CA	350.0	391.0	432.0	1	567.0	0.88	1
SA400A	SA400CA	400.0	447.0	494.0	1	648.0	0.77	1
SA440A	SA440CA	440.0	492.0	543.0	1	713.0	0.70	1
SA480A	SA480CA	480.0	536.0	593.0	1	750.0	0.67	1
SA500A	SA500CA	500.0	558.0	618.0	1	762.0	0.66	1

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

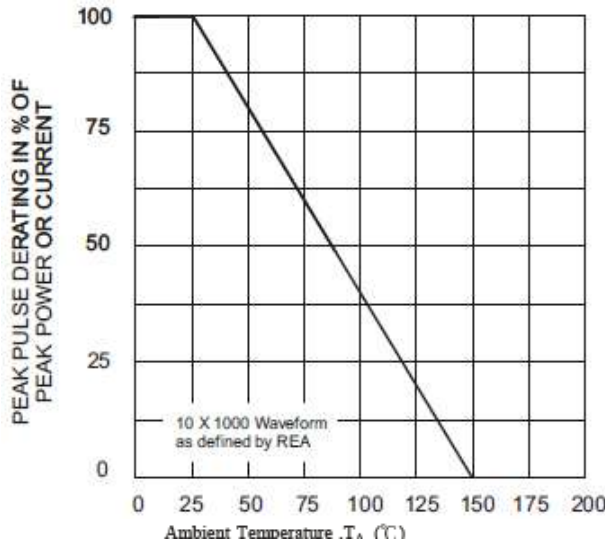


Fig. 1 - Pulse Derating Curve

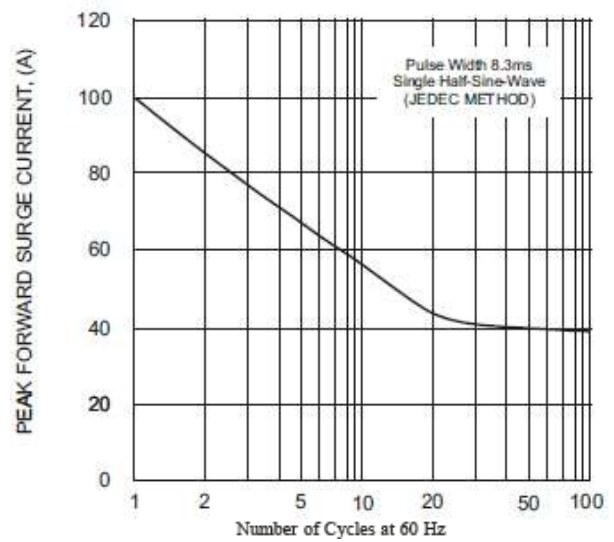


Fig. 2 - Maximum Non-Repetitive Surge Current

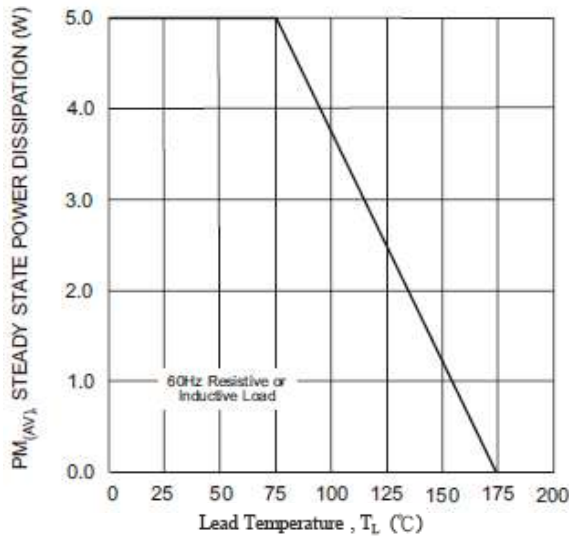


Fig. 3 - Steady State Power Derating Curve

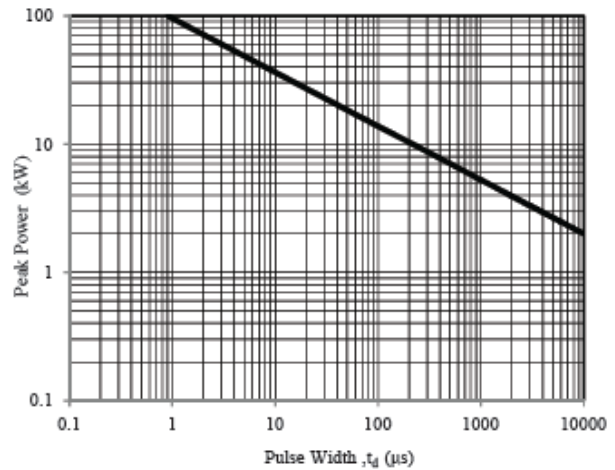


Fig. 4 - Peak Pulse Power Rating Curve

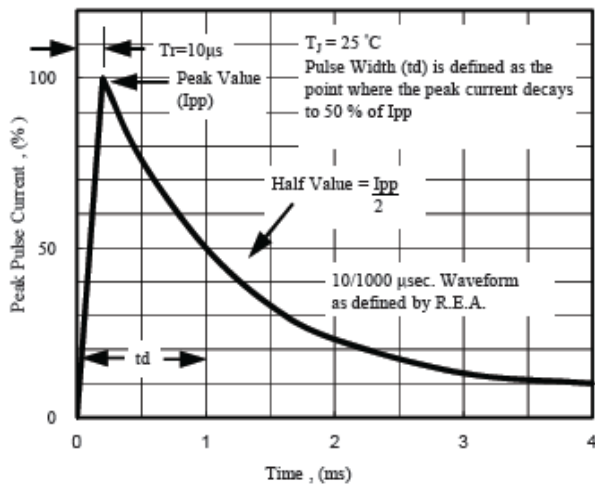


Fig. 5 - Pulse Waveform

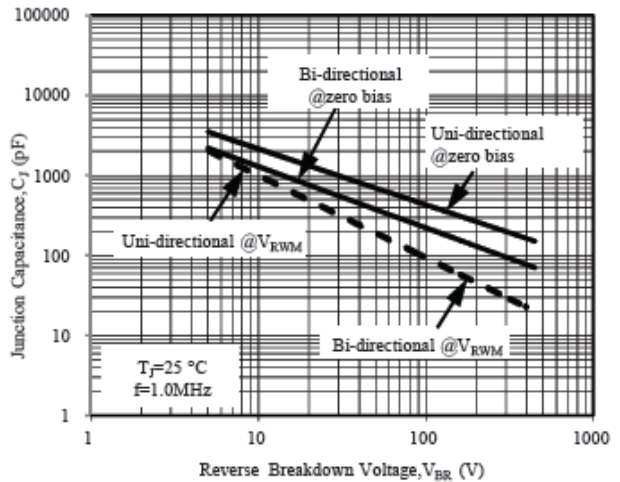


Fig. 6 - Typical Junction Capacitance