

Breakdown Voltage: 5.8V to 513 V

Peak Pulse Power: 1500 W

Axial Lead Transient Voltage Suppressors

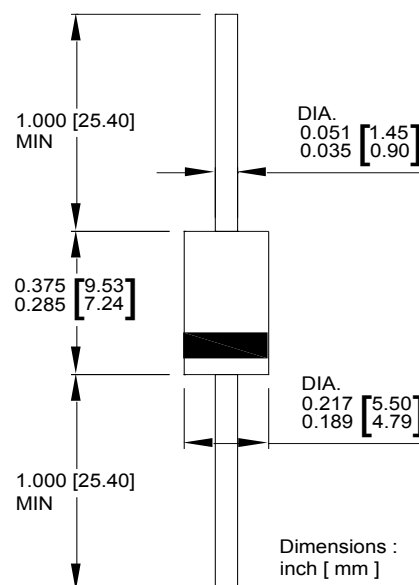
Features

- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant
- Meets MSL level 1
- IEC61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

DO-201



Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾	P_{PP}	1500	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	6.5	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I_{FSM}	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only ⁽³⁾	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to +150	$^\circ\text{C}$

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 $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$



Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

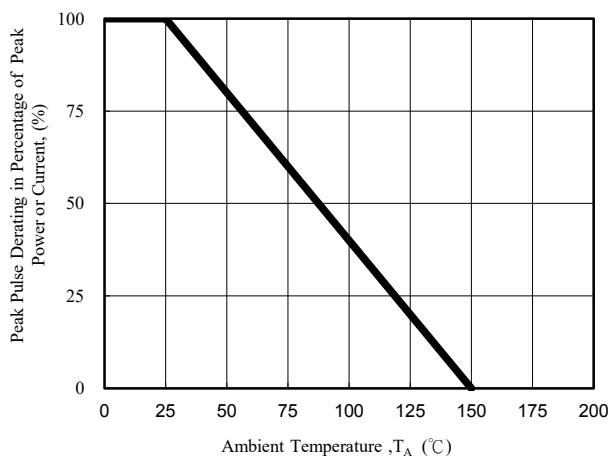


Fig. 1 - Pulse Derating Curve

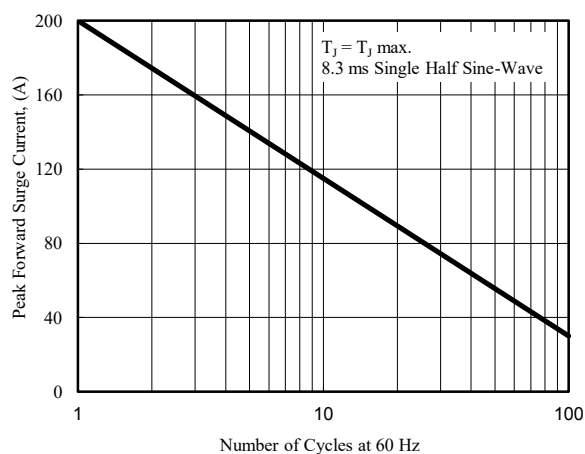


Fig. 2 - Maximum Non-Repetitive Surge Current

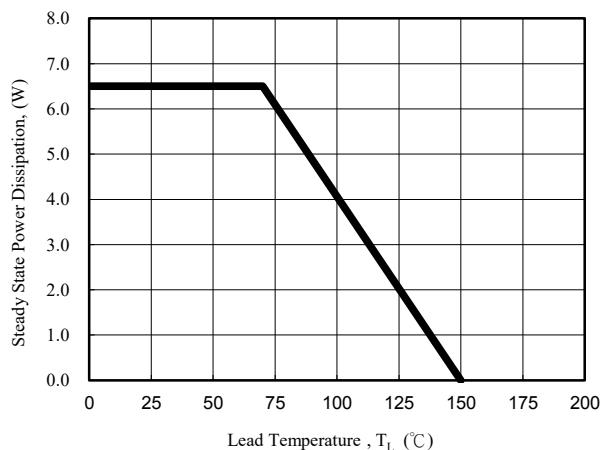


Fig. 3 - Steady State Power Derating Curve

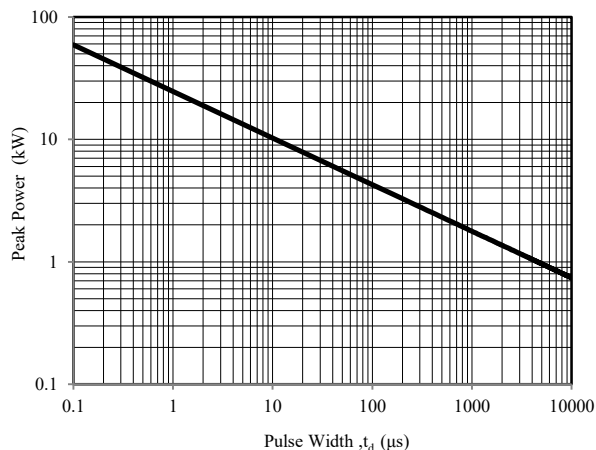


Fig. 4 - Peak Pulse Power Rating Curve

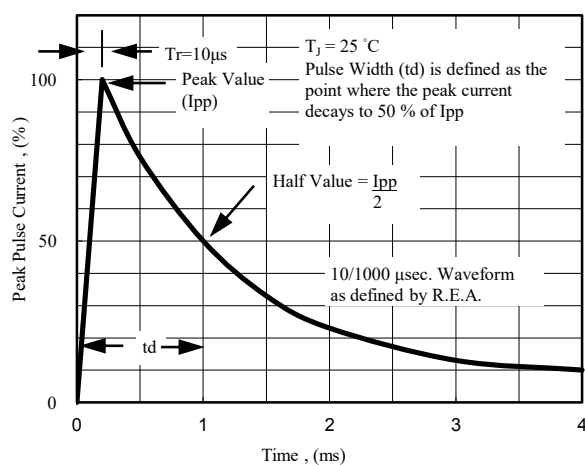


Fig. 5 - Pulse Waveform

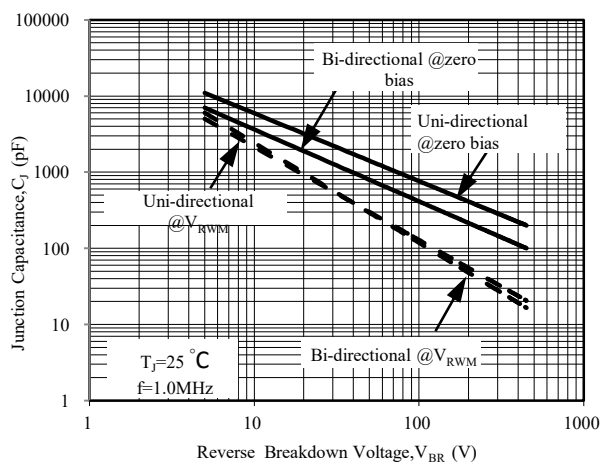


Fig. 6 - Typical Junction Capacitance



Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
1.5KE6.8A	1.5KE6.8CA	6.46	7.14	10	1000	5.8	142.86	10.5
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	10	500	6.4	132.74	11.3
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	10	200	7.0	123.97	12.1
1.5KE9.1A	1.5KE9.1CA	8.65	9.56	1	50	7.8	111.94	13.4
1.5KE10A	1.5KE10CA	9.50	10.50	1	10	8.6	103.45	14.5
1.5KE11A	1.5KE11CA	10.45	11.55	1	5	9.4	96.15	15.6
1.5KE12A	1.5KE12CA	11.40	12.60	1	5	10.2	89.82	16.7
1.5KE13A	1.5KE13CA	12.35	13.65	1	1	11.1	82.42	18.2
1.5KE15A	1.5KE15CA	14.25	15.75	1	1	12.8	70.75	21.2
1.5KE16A	1.5KE16CA	15.20	16.80	1	1	13.6	66.67	22.5
1.5KE18A	1.5KE18CA	17.10	18.90	1	1	15.3	59.52	25.2
1.5KE20A	1.5KE20CA	19.00	21.00	1	1	17.1	54.15	27.7
1.5KE22A	1.5KE22CA	20.90	23.10	1	1	18.8	49.02	30.6
1.5KE24A	1.5KE24CA	22.80	25.20	1	1	20.5	45.18	33.2
1.5KE27A	1.5KE27CA	25.65	28.35	1	1	23.1	40.00	37.5
1.5KE30A	1.5KE30CA	28.50	31.50	1	1	25.6	36.23	41.4
1.5KE33A	1.5KE33CA	31.35	34.65	1	1	28.2	32.82	45.7
1.5KE36A	1.5KE36CA	34.20	37.80	1	1	30.8	30.06	49.9
1.5KE39A	1.5KE39CA	37.05	40.95	1	1	33.3	27.83	53.9
1.5KE43A	1.5KE43CA	40.85	45.15	1	1	36.8	25.30	59.3
1.5KE47A	1.5KE47CA	44.65	49.35	1	1	40.2	23.15	64.8
1.5KE51A	1.5KE51CA	48.45	53.55	1	1	43.6	21.40	70.1
1.5KE56A	1.5KE56CA	53.20	58.80	1	1	47.8	19.48	77.0
1.5KE62A	1.5KE62CA	58.90	65.10	1	1	53.0	17.65	85.0
1.5KE68A	1.5KE68CA	64.60	71.40	1	1	58.1	16.30	92.0
1.5KE75A	1.5KE75CA	71.25	78.75	1	1	64.1	14.56	103.0
1.5KE82A	1.5KE82CA	77.90	86.10	1	1	70.1	13.27	113.0
1.5KE91A	1.5KE91CA	86.45	95.55	1	1	77.8	12.00	125.0
1.5KE100A	1.5KE100CA	95.00	105.00	1	1	85.5	10.95	137.0
1.5KE110A	1.5KE110CA	104.50	115.50	1	1	94.0	9.87	152.0
1.5KE120A	1.5KE120CA	114.00	126.00	1	1	102.0	9.09	165.0
1.5KE130A	1.5KE130CA	123.50	136.50	1	1	111.0	8.38	179.0
1.5KE150A	1.5KE150CA	142.50	157.50	1	1	128.0	7.25	207.0
1.5KE160A	1.5KE160CA	152.00	168.00	1	1	136.0	6.85	219.0
1.5KE170A	1.5KE170CA	161.50	178.50	1	1	145.0	6.41	234.0
1.5KE180A	1.5KE180CA	171.00	189.00	1	1	154.0	6.10	246.0
1.5KE200A	1.5KE200CA	190.00	210.00	1	1	171.0	5.47	274.0
1.5KE220A	1.5KE220CA	209.00	231.00	1	1	185.0	4.57	328.0
1.5KE250A	1.5KE250CA	237.50	262.50	1	1	214.0	4.36	344.0
1.5KE300A	1.5KE300CA	285.00	315.00	1	1	256.0	3.62	414.0
1.5KE350A	1.5KE350CA	332.50	367.50	1	1	299.3	3.11	482.0
1.5KE380A	1.5KE380CA	361.00	399.00	1	1	324.9	2.86	524.4
1.5KE400A	1.5KE400CA	380.00	420.00	1	1	342.0	2.72	548.0
1.5KE440A	1.5KE440CA	418.00	462.00	1	1	376.2	2.47	602.0
1.5KE500A	1.5KE500CA	475.00	525.00	1	1	427.5	2.17	690.0
1.5KE520A	1.5KE520CA	494.00	546.00	1	1	444.6	2.09	717.6
1.5KE550A	1.5KE550CA	522.50	577.50	1	1	470.3	1.98	759.0
1.5KE600A	1.5KE600CA	570.00	630.00	1	1	513.0	1.81	828.0

Note:

1. Suffix 'A' denotes 5% tolerance device.
2. Add suffix 'CA' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.