1.5KE Series

Axial LeadTransient Voltage Suppressors

Breakdown Voltage: 6.8 to 600 V

Peak Pulse Power: 1500 W

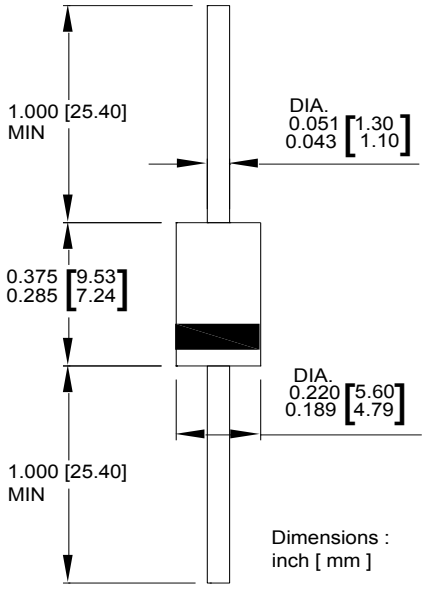
Features

- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

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

DO-27/DO-201AD



Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	1500	W
Peak pulse current with a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75 °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	°C

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °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<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

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Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	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)				
1.5KE6.8	1.5KE6.8C	6.12	7.48	10	1000	5.5	138.89	10.8
1.5KE6.8A	1.5KE6.8CA	6.46	7.14	10	1000	5.8	142.86	10.5
1.5KE7.5	1.5KE7.5C	6.75	8.25	10	500	6.1	128.21	11.7
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	10	500	6.4	132.74	11.3
1.5KE8.2	1.5KE8.2C	7.38	9.02	10	200	6.6	120.00	12.5
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	10	200	7.0	123.97	12.1
1.5KE9.1	1.5KE9.1C	8.19	10.01	1	50	7.4	108.70	13.8
1.5KE9.1A	1.5KE9.1CA	8.65	9.56	1	50	7.8	111.94	13.4
1.5KE10	1.5KE10C	9.00	11.00	1	10	8.1	100.00	15.0
1.5KE10A	1.5KE10CA	9.50	10.50	1	10	8.6	103.45	14.5
1.5KE11	1.5KE11C	9.90	12.10	1	5	8.9	92.59	16.2
1.5KE11A	1.5KE11CA	10.45	11.55	1	5	9.4	96.15	15.6
1.5KE12	1.5KE12C	10.80	13.20	1	5	9.7	86.71	17.3
1.5KE12A	1.5KE12CA	11.40	12.60	1	5	10.2	89.82	16.7
1.5KE13	1.5KE13C	11.70	14.30	1	1	10.5	78.95	19.0
1.5KE13A	1.5KE13CA	12.35	13.65	1	1	11.1	82.42	18.2
1.5KE15	1.5KE15C	13.50	16.50	1	1	12.1	68.18	22.0
1.5KE15A	1.5KE15CA	14.25	15.75	1	1	12.8	70.75	21.2
1.5KE16	1.5KE16C	14.40	17.60	1	1	12.9	63.83	23.5
1.5KE16A	1.5KE16CA	15.20	16.80	1	1	13.6	66.67	22.5
1.5KE18	1.5KE18C	16.20	19.80	1	1	14.5	56.60	26.5
1.5KE18A	1.5KE18CA	17.10	18.90	1	1	15.3	59.52	25.2
1.5KE20	1.5KE20C	18.00	22.00	1	1	16.2	51.55	29.1
1.5KE20A	1.5KE20CA	19.00	21.00	1	1	17.1	54.15	27.7
1.5KE22	1.5KE22C	19.80	24.20	1	1	17.8	47.02	31.9
1.5KE22A	1.5KE22CA	20.90	23.10	1	1	18.8	49.02	30.6
1.5KE24	1.5KE24C	21.60	26.40	1	1	19.4	43.23	34.7
1.5KE24A	1.5KE24CA	22.80	25.20	1	1	20.5	45.18	33.2
1.5KE27	1.5KE27C	24.30	29.70	1	1	21.8	38.36	39.1
1.5KE27A	1.5KE27CA	25.65	28.35	1	1	23.1	40.00	37.5
1.5KE30	1.5KE30C	27.00	33.00	1	1	24.3	34.48	43.5
1.5KE30A	1.5KE30CA	28.50	31.50	1	1	25.6	36.23	41.4
1.5KE33	1.5KE33C	29.70	36.30	1	1	26.8	31.45	47.7
1.5KE33A	1.5KE33CA	31.35	34.65	1	1	28.2	32.82	45.7
1.5KE36	1.5KE36C	32.40	39.60	1	1	29.1	28.85	52.0
1.5KE36A	1.5KE36CA	34.20	37.80	1	1	30.8	30.06	49.9
1.5KE39	1.5KE39C	35.10	42.90	1	1	31.6	26.60	56.4
1.5KE39A	1.5KE39CA	37.05	40.95	1	1	33.3	27.83	53.9
1.5KE43	1.5KE43C	38.70	47.30	1	1	34.8	24.23	61.9
1.5KE43A	1.5KE43CA	40.85	45.15	1	1	36.8	25.30	59.3
1.5KE47	1.5KE47C	42.30	51.70	1	1	38.1	22.12	67.8
1.5KE47A	1.5KE47CA	44.65	49.35	1	1	40.2	23.15	64.8
1.5KE51	1.5KE51C	45.90	56.10	1	1	41.3	20.41	73.5
1.5KE51A	1.5KE51CA	48.45	53.55	1	1	43.6	21.40	70.1
1.5KE56	1.5KE56C	50.40	61.60	1	1	45.4	18.63	80.5
1.5KE56A	1.5KE56CA	53.20	58.80	1	1	47.8	19.48	77.0

Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C 'or ' 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

1.5KE Series

Axial LeadTransient Voltage Suppressors

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	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)				
1.5KE62	1.5KE62C	55.80	68.20	1	1	50.2	16.85	89.0
1.5KE62A	1.5KE62CA	58.90	65.10	1	1	53.0	17.65	85.0
1.5KE68	1.5KE68C	61.20	74.80	1	1	55.1	15.31	98.0
1.5KE68A	1.5KE68CA	64.60	71.40	1	1	58.1	16.30	92.0
1.5KE75	1.5KE75C	67.50	82.50	1	1	60.7	13.89	108.0
1.5KE75A	1.5KE75CA	71.25	78.75	1	1	64.1	14.56	103.0
1.5KE82	1.5KE82C	73.80	90.20	1	1	66.4	12.71	118.0
1.5KE82A	1.5KE82CA	77.90	86.10	1	1	70.1	13.27	113.0
1.5KE91	1.5KE91C	81.90	100.10	1	1	73.7	11.45	131.0
1.5KE91A	1.5KE91CA	86.45	95.55	1	1	77.8	12.00	125.0
1.5KE100	1.5KE100C	90.00	110.00	1	1	81.0	10.42	144.0
1.5KE100A	1.5KE100CA	95.00	105.00	1	1	85.5	10.95	137.0
1.5KE110	1.5KE110C	99.00	121.00	1	1	89.2	9.49	158.0
1.5KE110A	1.5KE110CA	104.50	115.50	1	1	94.0	9.87	152.0
1.5KE120	1.5KE120C	108.00	132.00	1	1	97.2	8.67	173.0
1.5KE120A	1.5KE120CA	114.00	126.00	1	1	102.0	9.09	165.0
1.5KE130	1.5KE130C	117.00	143.00	1	1	105.0	8.02	187.0
1.5KE130A	1.5KE130CA	123.50	136.50	1	1	111.0	8.38	179.0
1.5KE150	1.5KE150C	135.00	165.00	1	1	121.0	6.98	215.0
1.5KE150A	1.5KE150CA	142.50	157.50	1	1	128.0	7.25	207.0
1.5KE160	1.5KE160C	144.00	176.00	1	1	130.0	6.52	230.0
1.5KE160A	1.5KE160CA	152.00	168.00	1	1	136.0	6.85	219.0
1.5KE170	1.5KE170C	153.00	187.00	1	1	138.0	6.15	244.0
1.5KE170A	1.5KE170CA	161.50	178.50	1	1	145.0	6.41	234.0
1.5KE180	1.5KE180C	162.00	198.00	1	1	146.0	5.81	258.0
1.5KE180A	1.5KE180CA	171.00	189.00	1	1	154.0	6.10	246.0
1.5KE200	1.5KE200C	180.00	220.00	1	1	162.0	5.23	287.0
1.5KE200A	1.5KE200CA	190.00	210.00	1	1	171.0	5.47	274.0
1.5KE220	1.5KE220C	198.00	242.00	1	1	175.0	4.36	344.0
1.5KE220A	1.5KE220CA	209.00	231.00	1	1	185.0	4.57	328.0
1.5KE250	1.5KE250C	225.00	275.00	1	1	202.0	4.17	360.0
1.5KE250A	1.5KE250CA	237.50	262.50	1	1	214.0	4.36	344.0
1.5KE300	1.5KE300C	270.00	330.00	1	1	243.0	3.49	430.0
1.5KE300A	1.5KE300CA	285.00	315.00	1	1	256.0	3.62	414.0
1.5KE350	1.5KE350C	315.00	385.00	1	1	284.2	2.98	504.0
1.5KE350A	1.5KE350CA	332.50	367.50	1	1	299.3	3.11	482.0
1.5KE380	1.5KE380C	342.00	418.00	1	1	308.6	2.74	547.2
1.5KE380A	1.5KE380CA	361.00	399.00	1	1	324.9	2.86	524.4
1.5KE400	1.5KE400C	360.00	440.00	1	1	324.8	2.60	574.0
1.5KE400A	1.5KE400CA	380.00	420.00	1	1	342.0	2.72	548.0
1.5KE440	1.5KE440C	396.00	484.00	1	1	357.3	2.37	631.0
1.5KE440A	1.5KE440CA	418.00	462.00	1	1	376.2	2.47	602.0
1.5KE500	1.5KE500C	450.00	550.00	1	1	406.0	2.08	720.0
1.5KE500A	1.5KE500CA	475.00	525.00	1	1	427.5	2.17	690.0
1.5KE520	1.5KE520C	468.00	572.00	1	1	422.2	2.00	748.8
1.5KE520A	1.5KE520CA	494.00	546.00	1	1	444.6	2.09	717.6
1.5KE550	1.5KE550C	495.00	605.00	1	1	446.6	1.89	792.0
1.5KE550A	1.5KE550CA	522.50	577.50	1	1	470.3	1.98	759.0
1.5KE600	1.5KE600C	540.00	660.00	1	1	487.2	1.74	864.0
1.5KE600A	1.5KE600CA	570.00	630.00	1	1	513.0	1.81	828.0

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

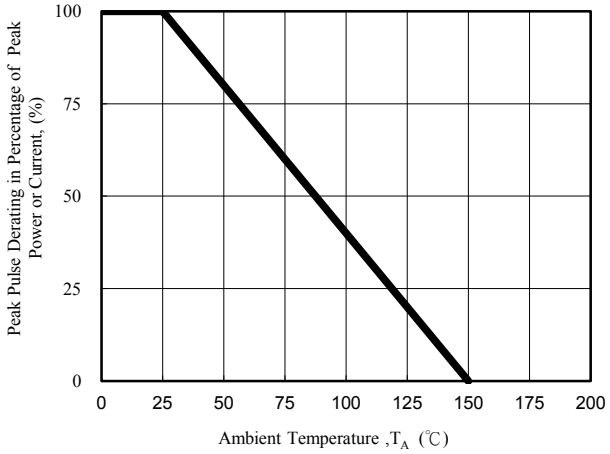

Fig. 1 - Pulse Derating Curve

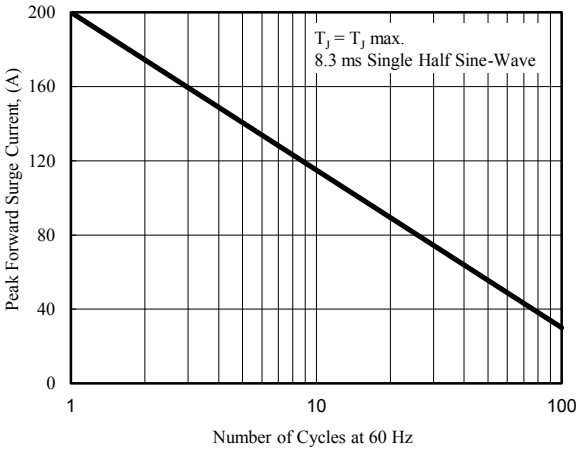

Fig. 2 - Maximum Non-Repetitive Surge Current

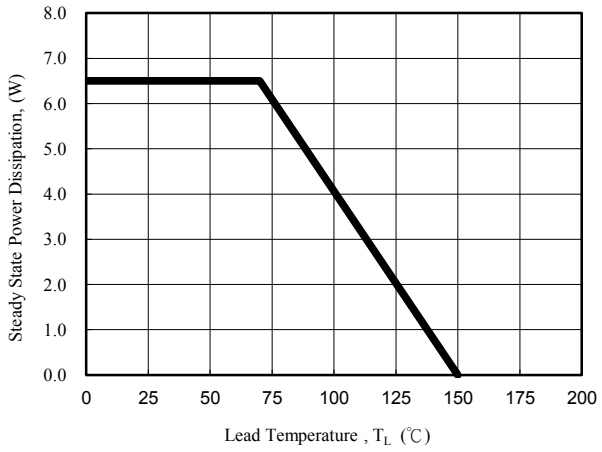

Fig. 3 - Steady State Power Derating Curve

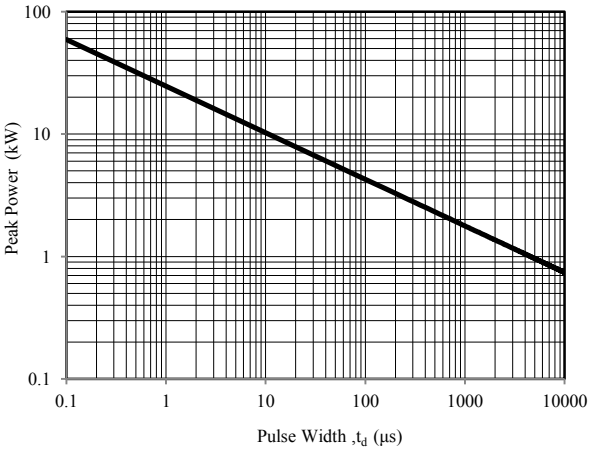

Fig. 4 - Peak Pulse Power Rating Curve

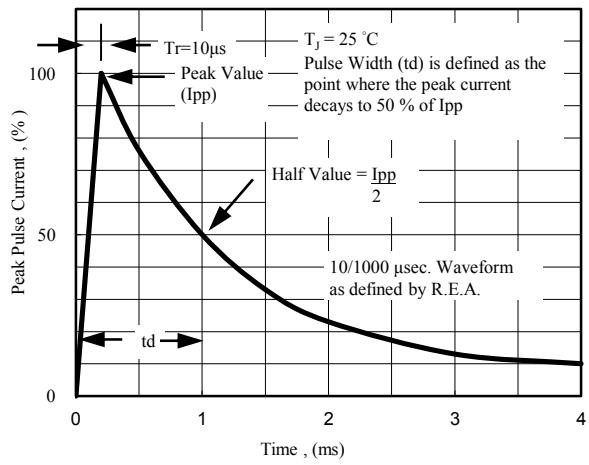

Fig. 5 - Pulse Waveform

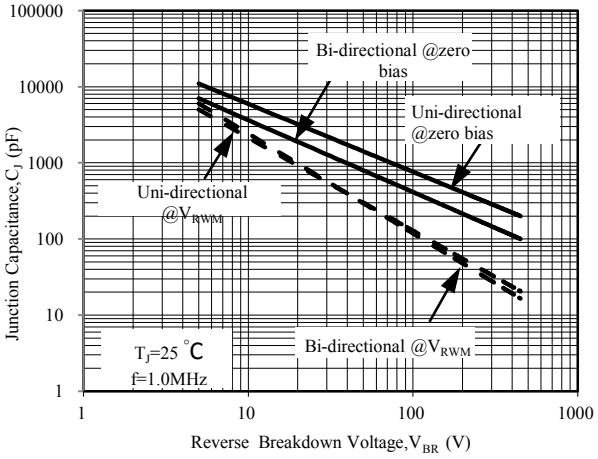

Fig. 6 - Typical Junction Capacitance

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
DO-27	1250/AMMO	12500	40X26.5X30	14.00	12.00