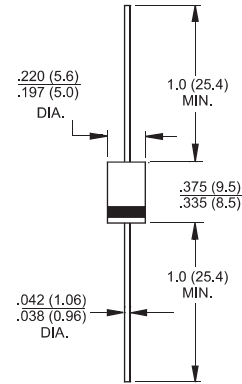




DO-201



Dimensions in inches and (millimeters)

Features

- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ✧ 1500W surge capability at 10 x 1000 us waveform
- ✧ Excellent clamping capability
- ✧ Low Dynamic impedance
- ✧ Fast response time: Typically less than 1.0ps from 0 volts to VBR for unidirectional and 5.0 ns for bidirectional
- ✧ Typical I_R less than 1uA above 10V
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds / .375", (9.5mm) lead length / 5lbs., (2.3kg) tension

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Polarity: Color band denotes cathode except bipolar
- ✧ Weight: 1.2 gram

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_p=1\text{ms}$ (Note 1)	P_{PK}	Minimum 1500	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375", 9.5mm (Note 2)	P_D	5.0	Watts
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	I_{FSM}	200	Amps
Maximum Instantaneous Forward Voltage at 50.0A for Unidirectional Only (Note 4)	V_F	3.5 / 5.0	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 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 Pad Area of 0.6 x 0.6" (16 x 16 mm) Per Fig. 4.
 3. 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minutes Maximum.
 4. $V_F=3.5\text{V}$ for Devices of $V_{BR} \leq 200\text{V}$ and $V_F=5.0\text{V}$ Max. for Devices $V_{BR}>200\text{V}$.

Devices for Bipolar Applications

1. For Bidirectional Use C or CA Suffix for Types 1.5KE6.8 through Types 1.5KE440.
2. Electrical Characteristics Apply in Both Directions.

RATINGS AND CHARACTERISTIC CURVES (1.5KE SERIES)

FIG.1- PEAK PULSE POWER RATING CURVE

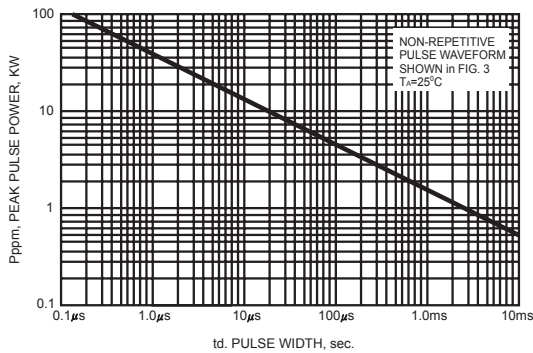


FIG.2- PULSE DERATING CURVE

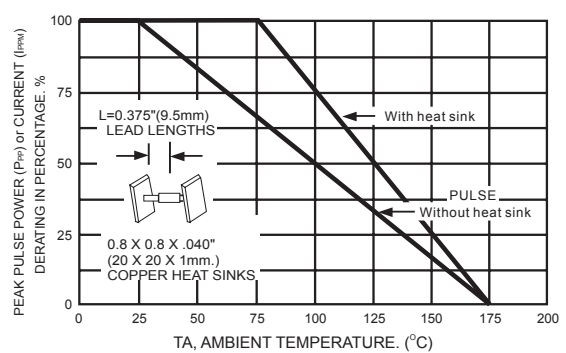


FIG.3- CLAMPING POWER PULSE WAVEFORM

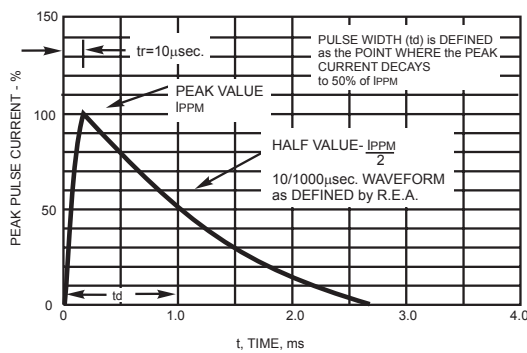


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

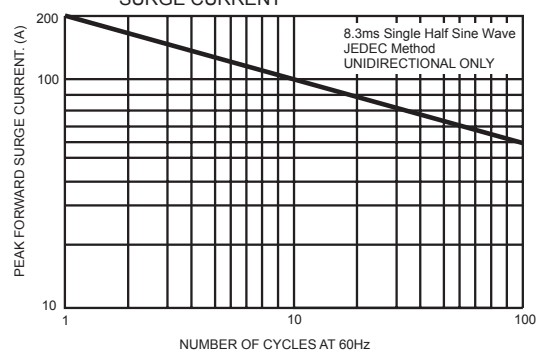
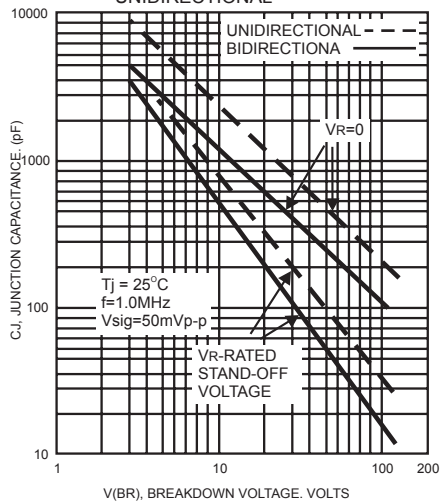


FIG.5- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL



ELECTRICAL CHARACTERISTICS (TA=25°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)				
1.5KE6.8	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

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