DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

1.5KE6.8 THRU 1.5KE440CA

TECHNICAL SPECIFICATIONS OF TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE RANGE - 6.8 to 440Volts PEAK PULAE POWER - 1500 Watts

FEATURES

* Glass passivated junction
* 1500 Watts Peak Pulse Power capability on 10/1000 µs waveform
* Excellent clamping capability
* Low zener impedance
* Fast response time

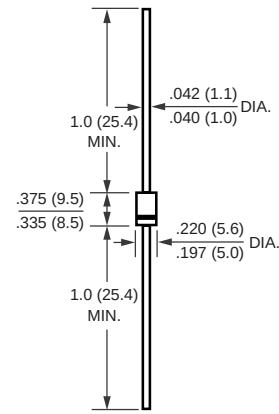
MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: MIL-STD-202E, Method 208 guaranteed
* Polarity: Color band denotes positive end (cathode) except bidirectional types
* Mounting position: Any
* Weight: 1.2 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

DO-201AE



Dimensions in inches and (millimeters)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA suffix (e.g. 1.5KE6.8C, 1.5KE440CA).
Electrical characteristics apply in both directions

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 µs waveform (Note1,FIG.1)	P_{PPM}	Minimum 1500	Watts
Steady State Power Dissipation at T = 75°C Lead Lengths .375"(9.5mm) (Note 2)	$P_{M(AV)}$	5.0	Watts
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note 3)	I_{FSM}	200	Amps
Maximum Instantaneuos Forwaard Voltage at 50A 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 TA = 25°C per Fig. 2.
2. Mounted on Copper Leaf area of 1.6 X 1.6"(40 X 40mm) per Fig. 5
3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
4. VF = 3.5V max. for devices of $V_{(BR)} \leqq$ 200V max. and VF = 5.0V max. for devices of $V_{(BR)}$ > 200V.

RATING AND CHARACTERISTIC CURVES (1.5KE6.8 THRU 1.5KE440CA)

FIG. 1 - PEAK PULSE POWER RATING CURVE

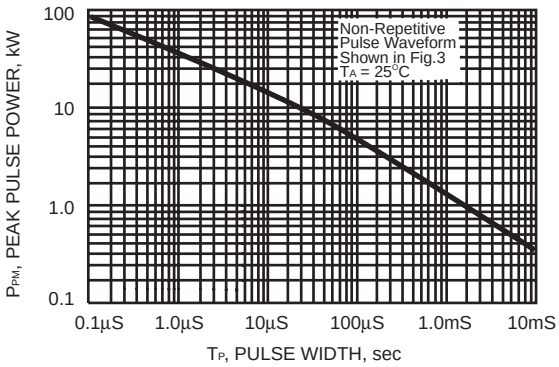


FIG. 2 - PULSE DERATING CURVE

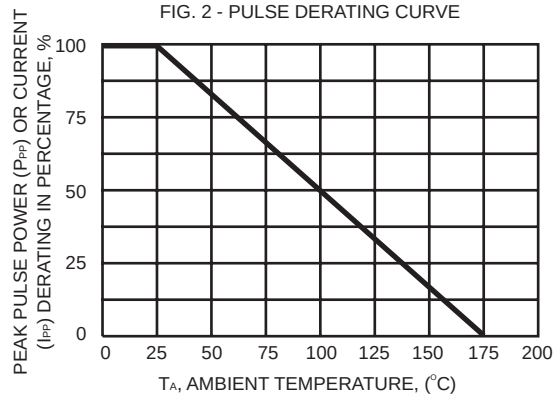


FIG. 3 - PULSE WAVEFORM

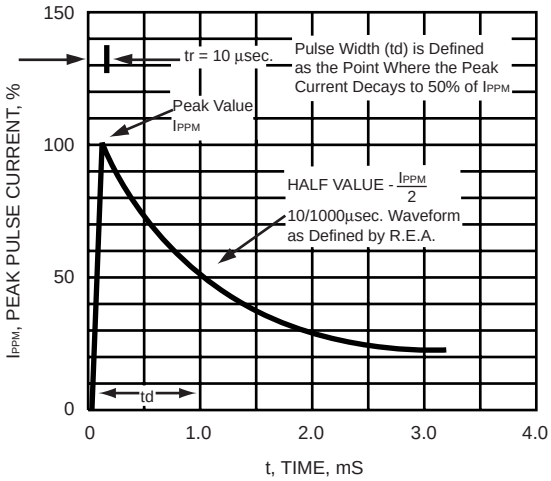


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

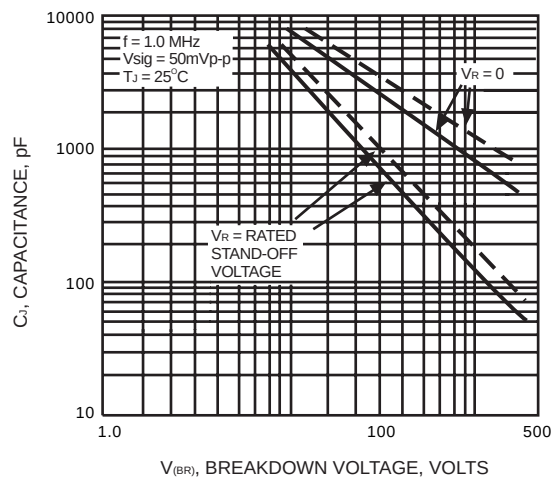


FIG. 5 - STEADY STATE POWER DERTING CURVE

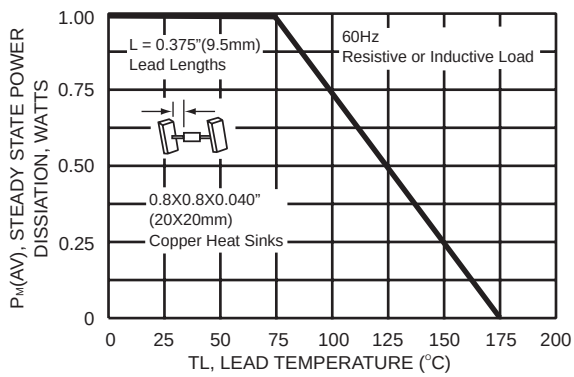
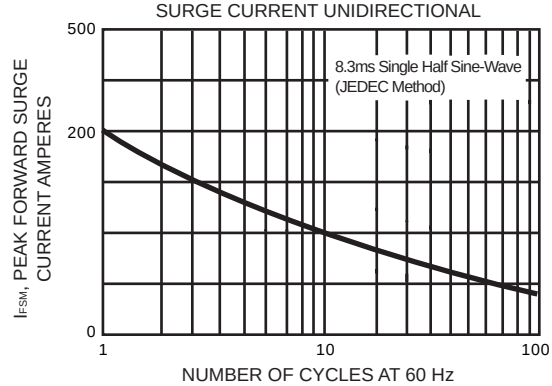


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



1.5KE (1500W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I_T		Test Current	Maximum Reverse Leakage @ V_{RWM}		Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current
	V_{RWM}	V_{BR}		I_T	I_R		V_C	I_{PP}
		Min.	Max.		UNI-	BI-		
	V	V	V	mA	μA	μA	V	A
1.5KE6.8	5.50	6.12	7.48	10	1000	2000	10.8	139
1.5KE6.8A	5.80	6.45	7.14	10	1000	2000	10.5	143
1.5KE7.5	6.05	6.75	8.25	10	500	1000	11.7	128
1.5KE7.5A	6.40	7.13	7.88	10	500	1000	11.3	132
1.5KE8.2	6.63	7.38	9.02	10	200	400	12.5	120
1.5KE8.2A	7.02	7.79	8.61	10	200	400	12.1	124
1.5KE9.1	7.37	8.19	10.0	1	50	100	13.8	109
1.5KE9.1A	7.78	8.65	9.50	1	50	100	13.4	112
1.5KE10	8.10	9.00	11.0	1	10	20	15.0	100
1.5KE10A	8.55	9.50	10.5	1	10	20	14.5	103
1.5KE11	8.92	9.90	12.1	1	5	10	16.2	93
1.5KE11A	9.40	10.5	11.6	1	5	10	15.6	96
1.5KE12	9.72	10.8	13.2	1	5		17.3	87
1.5KE12A	10.2	11.4	12.6	1	5		16.7	90
1.5KE13	10.5	11.7	14.3	1	5		19.0	79
1.5KE13A	11.1	12.4	13.7	1	5		18.2	82
1.5KE15	12.1	13.5	16.5	1	5		22.0	68
1.5KE15A	12.8	14.3	15.8	1	5		21.2	71
1.5KE16	12.9	14.4	17.6	1	5		23.5	64
1.5KE16A	13.6	15.2	16.8	1	5		22.5	67
1.5KE18	14.5	16.2	19.8	1	5		26.5	56.5
1.5KE18A	15.3	17.1	18.9	1	5		25.2	59.5
1.5KE20	16.2	18.0	22.0	1	5		29.1	51.5
1.5KE20A	17.1	19.0	21.0	1	5		27.7	54
1.5KE22	17.8	19.8	24.2	1	5		31.9	47
1.5KE22A	18.8	20.9	23.1	1	5		30.6	49
1.5KE24	19.4	21.6	26.4	1	5		34.7	43
1.5KE24A	20.5	22.8	25.2	1	5		33.2	45
1.5KE27	21.8	24.3	29.7	1	5		39.1	38.5
1.5KE27A	23.1	25.7	28.4	1	5		37.5	40
1.5KE30	24.3	27.0	33.0	1	5		43.5	34.5
1.5KE30A	25.6	28.5	31.5	1	5		41.4	36
1.5KE33	26.8	29.7	36.3	1	5		47.7	31.5
1.5KE33A	28.2	31.4	34.7	1	5		45.7	33
1.5KE36	29.1	32.4	39.6	1	5		52.0	29
1.5KE36A	30.8	34.2	37.8	1	5		49.9	30
1.5KE39	31.6	35.1	42.9	1	5		56.4	26.5
1.5KE39A	33.3	37.1	41.0	1	5		53.9	28
1.5KE43	34.8	38.7	47.3	1	5		61.9	24
1.5KE43A	36.8	40.9	45.2	1	5		59.3	25.3
1.5KE47	38.1	42.3	51.7	1	5		67.8	22.2
1.5KE47A	40.2	44.7	49.4	1	5		64.8	23.2

1.5KE (1500W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I_T		Test Current	Maximum Reverse Leakage @ V_{RWM}		Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current
	V_{RWM}	V_{BR}		I_T	I_R		V_C	I_{PP}
		Min.	Max.		UNI-	BI-		
	V	V	V	mA	μA	μA	V	A
1.5KE51	41.3	45.9	56.1	1	5		73.5	20.4
1.5KE51A	43.6	48.5	53.6	1	5		70.1	21.4
1.5KE56	45.6	50.4	61.6	1	5		80.5	18.6
1.5KE56A	47.8	53.2	58.8	1	5		77.0	19.5
1.5KE62	50.2	55.8	68.2	1	5		89.0	16.9
1.5KE62A	53.0	58.9	65.1	1	5		85.0	17.7
1.5KE68	55.1	61.2	74.8	1	5		98.0	15.3
1.5KE68A	58.1	64.6	71.4	1	5		92.0	16.3
1.5KE75	60.7	67.5	82.5	1	5		108	13.9
1.5KE75A	54.1	71.3	78.8	1	5		103	14.6
1.5KE82	66.4	73.8	90.2	1	5		118	12.7
1.5KE82A	70.1	77.9	86.1	1	5		113	13.3
1.5KE91	73.7	81.9	100	1	5		131	11.4
1.5KE91A	77.8	86.5	95.5	1	5		125	12
1.5KE100	81.0	90.0	110	1	5		144	10.4
1.5KE100A	85.5	95.0	105	1	5		137	11
1.5KE110	89.2	99.0	121	1	5		158	9.5
1.5KE110A	94.0	105	116	1	5		152	9.9
1.5KE120	97.2	108	132	1	5		173	8.7
1.5KE120A	102	114	126	1	5		165	9.1
1.5KE130	105	117	143	1	5		187	8.0
1.5KE130A	111	124	137	1	5		179	8.4
1.5KE150	121	135	165	1	5		215	7
1.5KE150A	128	143	158	1	5		207	7.2
1.5KE160	130	144	176	1	5		230	6.5
1.5KE160A	136	152	168	1	5		219	6.8
1.5KE170	138	153	187	1	5		244	6.2
1.5KE170A	145	162	179	1	5		234	6.4
1.5KE180	146	162	198	1	5		258	5.8
1.5KE180A	154	171	189	1	5		246	6.1
1.5KE200	162	180	220	1	5		287	5.2
1.5KE200A	171	190	210	1	5		274	5.5
1.5KE220	175	198	242	1	5		344	4.3
1.5KE220A	185	209	231	1	5		328	4.6
1.5KE250	202	225	275	1	5		360	4.3
1.5KE250A	214	237	263	1	5		344	4.5
1.5KE300	243	270	330	1	5		430	3.6
1.5KE300A	256	285	315	1	5		414	3.8
1.5KE350	284	315	385	1	5		504	3.1
1.5KE350A	300	332	368	1	5		482	3.2
1.5KE400	324	360	440	1	5		574	2.7
1.5KE400A	342	380	420	1	5		548	2.8
1.5KE440	356	396	484	1	5		631	2.4
1.5KE440A	376	418	462	1	5		602	2.6

NOTES:1. V_{BR} measured after I_T applied for 300μs. I_T= Square Wave Pulse or equivalent.

2. For Bidirectional use "**C**" or "**CA**" Suffix for all types (e.g.: 1.5KE6.8**C**, 1.5KE6.8**CA**, 1.5KE440**C**, 1.5KE440**CA**). Electrical characteristics apply in both directions.

3. For bidirectional types having V_{RWM} of 10 volts and less, the I_D limit is doubled.