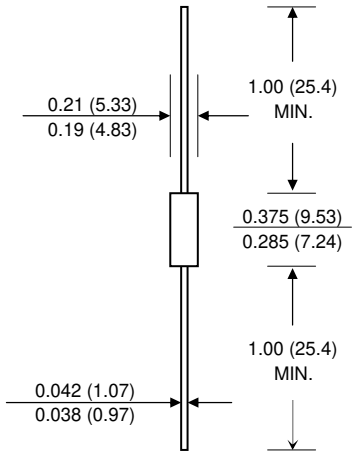
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1.5KE6.8C SERIES

BI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 6.8 - 440 Volts
P_{PK} : 1500 Watts

DO-201



Dimensions in inches and (millimeters)

FEATURES :

* Glass passivated junction chip
* 1500W surge capability at 1ms
* Excellent clamping capability
* Low zener impedance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Typical I_R less then 1µA above 10V
* Pb / RoHS Free

MECHANICAL DATA

* Case : DO-201 Molded plastic
* Epoxy : UL94V-0 rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
* Mounting position : Any
* Weight : 0.93 grams

DEVICES FOR UNIPOLAR APPLICATIONS

For uni-directional without "C"
Electrical characteristics apply in both directions

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	P_{PK}	Minimum 1500	W
Steady State Power Dissipation at T_L = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	5.0	W
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175	°C

Notes :

(1) Non-repetitive Current pulse, per Fig. 2 and derated above Ta = 25°C per Fig. 1
(2) Mounted on Copper Leaf area of 1.57 in^2(40mm^2).

ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
1.5KE6.8C	6.12	7.48	10	5.50	2000	139	10.8	0.057
1.5KE6.8CA	6.45	7.14	10	5.80	2000	143	10.5	0.057
1.5KE7.5C	6.75	8.25	10	6.05	1000	128	11.7	0.061
1.5KE7.5CA	7.13	7.88	10	6.40	1000	132	11.3	0.061
1.5KE8.2C	7.38	9.02	10	6.63	400	120	12.5	0.065
1.5KE8.2CA	7.79	8.61	10	7.02	400	124	12.1	0.065
1.5KE9.1C	8.19	10.0	1.0	7.37	100	109	13.8	0.068
1.5KE9.1CA	8.65	9.6	1.0	7.78	100	112	13.4	0.068
1.5KE10C	9.00	11.0	1.0	8.10	20	100	15.0	0.073
1.5KE10CA	9.50	10.5	1.0	8.55	20	103	14.5	0.073
1.5KE11C	9.90	12.1	1.0	8.92	5.0	93.0	16.2	0.075
1.5KE11CA	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1.5KE12C	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.078
1.5KE12CA	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1.5KE13C	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081
1.5KE13CA	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1.5KE15C	13.5	16.5	1.0	12.1	1.0	68.0	22.0	0.084
1.5KE15CA	14.3	15.8	1.0	12.8	1.0	71.0	21.2	0.084
1.5KE16C	14.4	17.6	1.0	12.9	1.0	64.0	23.5	0.086
1.5KE16CA	15.2	16.8	1.0	13.6	1.0	67.0	22.5	0.086
1.5KE18C	16.2	19.8	1.0	14.5	1.0	56.5	26.5	0.088
1.5KE18CA	17.1	18.9	1.0	15.3	1.0	59.5	25.2	0.088
1.5KE20C	18.0	22.0	1.0	16.2	1.0	51.5	29.1	0.090
1.5KE20CA	19.0	21.0	1.0	17.1	1.0	54.0	27.7	0.090
1.5KE22C	19.8	24.2	1.0	17.8	1.0	47.0	31.9	0.092
1.5KE22CA	20.9	23.1	1.0	18.8	1.0	49.0	30.6	0.092
1.5KE24C	21.6	26.4	1.0	19.4	1.0	43.0	34.7	0.094
1.5KE24CA	22.8	25.2	1.0	20.5	1.0	45.0	33.2	0.094
1.5KE27C	24.3	29.7	1.0	21.8	1.0	38.5	39.1	0.096
1.5KE27CA	25.7	28.4	1.0	23.1	1.0	40.0	37.5	0.096
1.5KE30C	27.0	33.0	1.0	24.3	1.0	34.5	43.5	0.097
1.5KE30CA	28.5	31.5	1.0	25.6	1.0	36.0	41.4	0.097
1.5KE33C	29.7	36.3	1.0	26.8	1.0	31.5	47.7	0.098
1.5KE33CA	31.4	34.7	1.0	28.2	1.0	33.0	45.7	0.098
1.5KE36C	32.4	39.6	1.0	29.1	1.0	29.0	52.0	0.099
1.5KE36CA	34.2	37.8	1.0	30.8	1.0	30.0	49.9	0.099
1.5KE39C	35.1	42.9	1.0	31.6	1.0	26.5	56.4	0.100
1.5KE39CA	37.1	41.0	1.0	33.3	1.0	28.0	53.9	0.100
1.5KE43C	38.7	47.3	1.0	34.8	1.0	24.0	61.9	0.101
1.5KE43CA	40.9	45.2	1.0	36.8	1.0	25.3	59.3	0.101
1.5KE47C	42.3	51.7	1.0	38.1	1.0	22.2	67.8	0.101
1.5KE47CA	44.7	49.4	1.0	40.2	1.0	23.2	64.8	0.101
1.5KE51C	45.9	56.1	1.0	41.3	1.0	20.4	73.5	0.102
1.5KE51CA	48.5	53.6	1.0	43.6	1.0	21.4	70.1	0.102

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
1.5KE56C	50.4	61.6	1.0	45.4	1.0	18.6	80.5	0.103
1.5KE56CA	53.2	58.8	1.0	47.8	1.0	19.5	77.0	0.103
1.5KE62C	55.8	68.2	1.0	50.2	1.0	16.9	89.0	0.104
1.5KE62CA	58.9	65.1	1.0	53.0	1.0	17.7	85.0	0.104
1.5KE68C	61.2	74.8	1.0	55.1	1.0	15.3	98.0	0.104
1.5KE68CA	64.6	71.4	1.0	58.1	1.0	16.3	92.0	0.104
1.5KE75C	67.5	82.5	1.0	60.7	1.0	13.9	108	0.105
1.5KE75CA	71.3	78.8	1.0	64.1	1.0	14.6	103	0.105
1.5KE82C	73.8	90.2	1.0	66.4	1.0	12.7	118	0.105
1.5KE82CA	77.9	86.1	1.0	70.1	1.0	13.3	113	0.105
1.5KE91C	81.9	100	1.0	73.7	1.0	11.4	131	0.106
1.5KE91CA	86.5	95.5	1.0	77.8	1.0	12.0	125	0.106
1.5KE100C	90.0	110	1.0	81.0	1.0	10.4	144	0.106
1.5KE100CA	95.0	105	1.0	85.5	1.0	11.0	137	0.106
1.5KE110C	99.0	121	1.0	89.2	1.0	9.5	158	0.107
1.5KE110CA	105	116	1.0	94.0	1.0	9.9	152	0.107
1.5KE120C	108	132	1.0	97.2	1.0	8.7	173	0.107
1.5KE120CA	114	126	1.0	102	1.0	9.1	165	0.107
1.5KE130C	117	143	1.0	105	1.0	8.0	187	0.107
1.5KE130CA	124	137	1.0	111	1.0	8.4	179	0.107
1.5KE150C	135	165	1.0	121	1.0	7.0	215	0.108
1.5KE150CA	143	158	1.0	128	1.0	7.2	207	0.108
1.5KE160C	144	176	1.0	130	1.0	6.5	230	0.108
1.5KE160CA	152	168	1.0	136	1.0	6.8	219	0.108
1.5KE170C	153	187	1.0	138	1.0	6.2	244	0.108
1.5KE170CA	162	179	1.0	145	1.0	6.4	234	0.108
1.5KE180C	162	198	1.0	146	1.0	5.8	258	0.108
1.5KE180CA	171	189	1.0	154	1.0	6.1	246	0.108
1.5KE200C	180	220	1.0	162	1.0	5.2	287	0.108
1.5KE200CA	190	210	1.0	171	1.0	5.5	274	0.108
1.5KE220C	198	242	1.0	175	1.0	4.3	344	0.108
1.5KE220CA	209	231	1.0	185	1.0	4.6	328	0.108
1.5KE250C	225	275	1.0	202	1.0	4.2	360	0.110
1.5KE250CA	237	263	1.0	214	1.0	4.4	344	0.110
1.5KE300C	270	330	1.0	243	1.0	3.5	430	0.110
1.5KE300CA	285	315	1.0	256	1.0	3.6	414	0.110
1.5KE350C	315	385	1.0	284	1.0	3.0	504	0.110
1.5KE350CA	332	368	1.0	300	1.0	3.1	482	0.110
1.5KE400C	360	440	1.0	324	1.0	2.6	574	0.110
1.5KE400CA	380	420	1.0	342	1.0	2.7	548	0.110
1.5KE440C	396	484	1.0	356	1.0	2.4	631	0.110
1.5KE440CA	418	462	1.0	376	1.0	2.5	602	0.110

Notes:

(1) V_{BR} measured after It applied for 300 µs., It = square wave pulse or equivale

(2) "1.5" will be omitted in marking on the diode.

RATING AND CHARACTERISTIC CURVES (1.5KE6.8C SERIES)

FIG.1 - PULSE DERATING CURVE

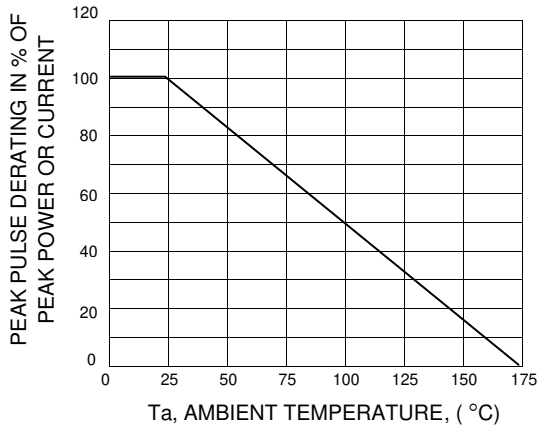


FIG.2 - PULSE WAVEFORM

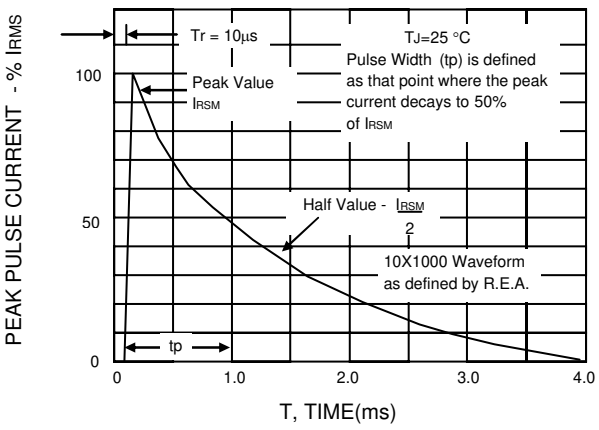


FIG.3 - STEADY STATE POWER DERATING

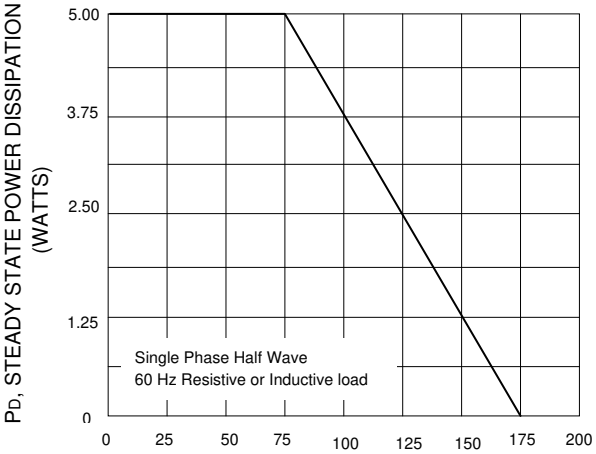


FIG.4 - PULSE RATING CURVE

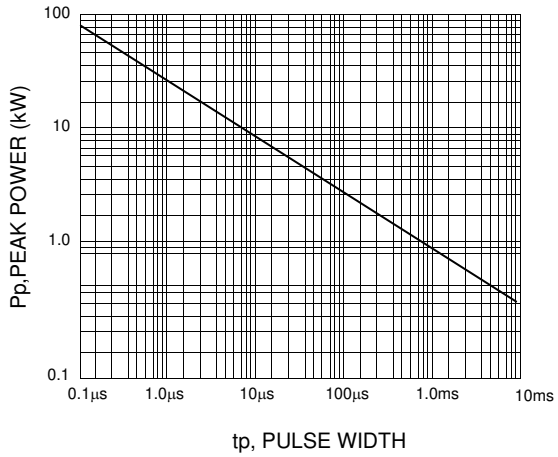


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

