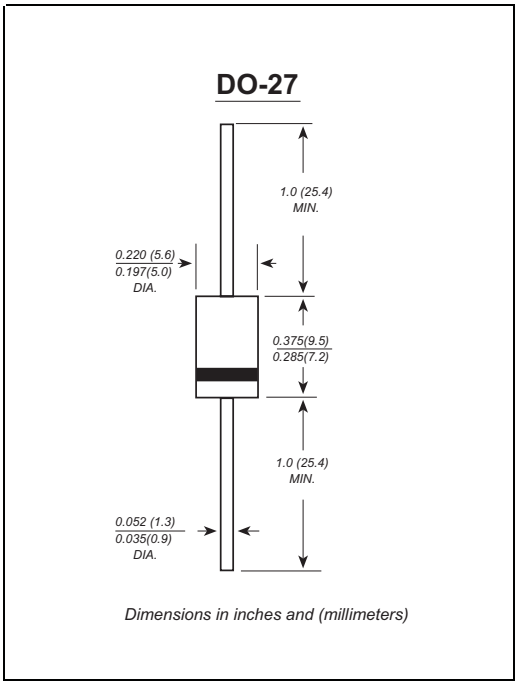
1.5KE Series
1500W Transient Voltage Suppressors

Features

- 1500w peak pulse power capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time:typically less than 1.0ps from 0v to V_{BR} for unidirectional and 5.0ns ror bidirectional types.
- High temperature soldering guaranteed:
  265°C/10S/9.5mm lead length at 5 lbs tension



Mechanical Data

Case: JEDEC DO-27 molded plastic body over passivated junction
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode except for bidirectional types
Mounting Position: Any
Weight: 0.04 ounce,1.10 grams

Devices For Bidirectional Applictions

For bidirectional use suffix C or CA for types 1.5KE6.8 thru 1.5KE440 (e.g. 1.5KE6.8CA,1.5KE440CA)Electrical characteristics apply in both directions.

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	*VALUE*	*UNITS*
Peak power dissipation (Note 1)	Pppm	Minimum 1500	Watts
Peak pulse reverse current (Note 1, Fig.1)	Ippm	See Table 1	Amps
Steady state power dissapation (Note 2)	$P_{M(AV)}$	5.0	Watts
Peak forward surge current (Note 3)	I_{FSM}	200	Amps
Maximum instantaneous forward voltage at 50A for unidirectional only (Note 4)	V_F	3.5/5.0	Volts
Operating junction and storage temperature range	T_{STG},T_J	-55 to + 175	°C

Notes:

1.10/1000μs waveform non-repetitive current pulse,per Fig.3 and derated above Ta=25℃ per Fig.2
2.T_L=75°C,lead lengths 9.5mm,Mounted on copper pad atea of (20x20mm)Fig.5
3.Measured on 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 $V_{(BR)}$≤200V,and VF=5.0V max.for devices of $V_{(BR)}$>200V

Electrical Characterisitics

(at T_A =25°C unless otherwise noted)

Device Type		Breakdown Voltage $V_{(BR)}$ (Volts)(NOTES 1)		Test Current I_T(mA)	Stand-off Voltage V_{WM} (Volts)	Maximum Reverse Leakage atV_{WM} I_D(NOTE3)(μA)	Maximum Peak Pulse Reverse Current I_{PPM}(NOTE2) (Amps)	Maximum Clamping Voltage at I_{PPM} Vc(Volts)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/°C)
Unidirectional	Bidirectional	MIN	MAX						
1.5KE6.8	1.5KE6.8C	6.12	7.48	10.0	5.50	1000.0	139	10.8	0.057
1.5KE6.8A	1.5KE6.8CA	6.45	7.14	10.0	5.80	1000.0	143	10.5	0.057
1.5KE7.5	1.5KE7.5C	6.75	8.25	1.0	6.05	500.0	128	11.7	0.061
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	1.0	6.40	500.0	133	11.3	0.061
1.5KE8.2	1.5KE8.2C	7.38	9.02	1.0	6.63	200.0	120	12.5	0.065
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	1.0	7.02	200.0	124	12.1	0.065
1.5KE9.1	1.5KE9.1C	8.19	10.0	1.0	7.37	50.0	109	13.8	0.068
1.5KE9.1A	1.5KE9.1CA	8.65	9.55	1.0	7.78	50.0	112	13.4	0.068
1.5KE10	1.5KE10C	9.00	11.0	1.0	8.10	10.0	100	15.0	0.073
1.5KE10A	1.5KE10CA	9.50	10.5	1.0	8.55	10.0	103	14.5	0.073
1.5KE11	1.5KE11C	9.90	12.1	1.0	8.92	5.0	92.6	16.2	0.075
1.5KE11A	1.5KE11CA	10.5	11.6	1.0	9.40	5.0	96.2	15.6	0.075
1.5KE12	1.5KE12C	10.8	13.2	1.0	9.72	5.0	86.7	17.3	0.078
1.5KE12A	1.5KE12CA	11.4	12.6	1.0	10.2	5.0	89.8	16.7	0.078
1.5KE13	1.5KE13C	11.7	14.3	1.0	10.5	5.0	78.9	19.0	0.081
1.5KE13A	1.5KE13CA	12.4	13.7	1.0	11.1	5.0	82.4	18.2	0.081
1.5KE15	1.5KE15C	13.5	16.5	1.0	12.1	5.0	68.2	22.0	0.084
1.5KE15A	1.5KE15CA	14.3	15.8	1.0	12.8	5.0	70.8	21.2	0.084
1.5KE16	1.5KE16C	14.4	17.6	1.0	12.9	5.0	63.8	23.5	0.086
1.5KE16A	1.5KE16CA	15.2	16.8	1.0	13.6	5.0	66.7	22.5	0.086
1.5KE18	1.5KE18C	16.2	19.8	1.0	14.5	5.0	56.6	26.5	0.088
1.5KE18A	1.5KE18CA	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088
1.5KE20	1.5KE20C	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090
1.5KE20A	1.5KE20CA	19.0	21.0	1.0	17.1	5.0	54.2	27.7	0.090
1.5KE22	1.5KE22C	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092
1.5KE22A	1.5KE22CA	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1.5KE24	1.5KE24C	21.6	26.4	1.0	19.4	5.0	43.2	34.7	0.094
1.5KE24A	1.5KE24CA	22.8	25.2	1.0	20.5	5.0	45.2	33.2	0.094
1.5KE27	1.5KE27C	24.3	29.7	1.0	21.8	5.0	38.4	39.1	0.096
1.5KE27A	1.5KE27CA	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1.5KE30	1.5KE30C	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097
1.5KE30A	1.5KE30CA	28.5	31.5	1.0	25.6	50.	36.2	41.4	0.097
1.5KE33	1.5KE33C	29.7	36.3	1.0	26.8	5.0	31.4	47.7	0.098
1.5KE33A	1.5KE33CA	31.4	34.7	1.0	28.2	5.0	32.8	45.7	0.098
1.5KE36	1.5KE36C	32.4	39.6	1.0	29.1	5.0	28.8	52.0	0.099
1.5KE36A	1.5KE36CA	34.2	37.8	1.0	30.8	5.0	30.1	49.9	0.099
1.5KE39	1.5KE39C	35.1	42.9	1.0	31.6	5.0	26.6	56.4	0.100
1.5KE39A	1.5KE39CA	37.1	41.0	1.0	33.3	5.0	27.8	53.9	0.100
1.5KE43	1.5KE43C	38.7	47.3	1.0	34.8	5.0	24.2	61.9	0.101
1.5KE43A	1.5KE43CA	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1.5KE47	1.5KE47C	42.3	51.7	1.0	38.1	5.0	22.1	67.8	0.101
1.5KE47A	1.5KE47CA	44.7	49.4	1.0	40.2	5.0	23.1	64.8	0.101
1.5KE51	1.5KE51C	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102
1.5KE51A	1.5KE51CA	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1.5KE56	1.5KE56C	50.4	61.6	1.0	45.4	5.0	18.6	80.5	0.103
1.5KE56A	1.5KE56CA	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103

Electrical Characterisitics

(at T_A =25°C unless otherwise noted)

Device Type		Breakdown Voltage $V_{(BR)}$ (Volts)(NOTES 1)		Test Current I_T(mA)	Stand-off Voltage V_{WM} (Volts)	Maximum Reverse Leakage atV_{WM} I_D(NOTE3)(μA)	Maximum Peak Pulse Reverse Current I_{PPM}(NOTE2) (Amps)	Maximum Clamping Voltage at I_{PPM} Vc(Volts)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/°C)
Unidirectional	Bidirectional	MIN	MAX						
1.5KE62	1.5KE62C	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104
1.5KE62A	1.5KE62CA	58.9	65.1	1.0	53.0	5.0	17.6	85.0	0.104
1.5KE68	1.5KE68C	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
1.5KE68A	1.5KE68CA	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1.5KE75	1.5KE75C	67.5	82.5	1.0	60.7	5.0	13.9	108	0.105
1.5KE75A	1.5KE75CA	71.3	78.8	1.0	64.1	5.0	14.6	103	0.105
1.5KE82	1.5KE82C	73.8	90.2	1.0	66.4	5.0	12.7	118	0.105
1.5KE82A	1.5KE82CA	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
1.5KE91	1.5KE91C	81.9	100	1.0	73.7	5.0	11.5	131	0.106
1.5KE91A	1.5KE91CA	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
1.5KE100	1.5KE100C	90.0	110	1.0	81.0	5.0	10.4	144	0.106
1.5KE100A	1.5KE100CA	95.0	105	1.0	85.5	5.0	10.9	137	0.106
1.5KE110	1.5KE110C	99.0	121	1.0	89.2	5.0	9.5	158	0.107
1.5KE110A	1.5KE110CA	105	116	1.0	94.0	5.0	9.9	152	0.107
1.5KE120	1.5KE120C	108	132	1.0	97.2	5.0	8.7	173	0.107
1.5KE120A	1.5KE120CA	114	126	1.0	102	5.0	9.1	165	0.107
1.5KE130	1.5KE130C	117	143	1.0	105	5.0	8.0	187	0.107
1.5KE130A	1.5KE130CA	124	137	1.0	111	5.0	8.4	179	0.107
1.5KE150	1.5KE150C	135	165	1.0	121	5.0	7.0	215	0.108
1.5KE150A	1.5KE150CA	143	158	1.0	128	5.0	7.2	207	0.108
1.5KE160	1.5KE160C	144	176	1.0	130	5.0	6.5	230	0.108
1.5KE160A	1.5KE160CA	152	168	1.0	136	5.0	6.8	219	0.108
1.5KE170	1.5KE170C	153	187	1.0	138	5.0	6.1	244	0.108
1.5KE170A	1.5KE170CA	162	179	1.0	145	5.0	6.4	234	0.108
1.5KE180	1.5KE180C	162	198	1.0	146	5.0	5.8	258	0.108
1.5KE180A	1.5KE180CA	171	189	1.0	154	5.0	6.1	246	0.108
1.5KE200	1.5KE200C	180	220	1.0	162	5.0	5.2	287	0.108
1.5KE200A	1.5KE200CA	190	210	1.0	171	5.0	5.5	274	0.108
1.5KE220	1.5KE220C	198	242	1.0	175	5.0	4.4	344	0.108
1.5KE220A	1.5KE220CA	209	231	1.0	185	5.0	4.6	328	0.108
1.5KE250	1.5KE250C	225	275	1.0	202	5.0	4.2	360	0.110
1.5KE250A	1.5KE250CA	237	263	1.0	214	5.0	4.4	344	0.110
1.5KE300	1.5KE300C	270	330	1.0	243	5.0	3.5	430	0.110
1.5KE300A	1.5KE300CA	285	315	1.0	256	5.0	3.6	414	0.110
1.5KE350	1.5KE350C	315	385	1.0	284	5.0	3.0	504	0.110
1.5KE350A	1.5KE350CA	332	368	1.0	300	5.0	3.1	482	0.110
1.5KE400	1.5KE400C	360	440	1.0	324	5.0	2.6	574	0.110
1.5KE400A	1.5KE400CA	380	420	1.0	342	5.0	2.7	548	0.110
1.5KE440	1.5KE440C	396	484	1.0	356	5.0	2.4	631	0.110
1.5KE440A	1.5KE440CA	418	462	1.0	376	5.0	2.5	602	0.110

NOTES:

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

2.Surge current waveform per Fig.3 and derated per Fig.2

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

4.All items and symbols are consistent with ANSI/IEEE C62.35

Ratings And Characteristic Curves

1.5KE6.8 THRU1.5KE440CA

FIG. 1-PEAK PULSE POWER RATING CURVE

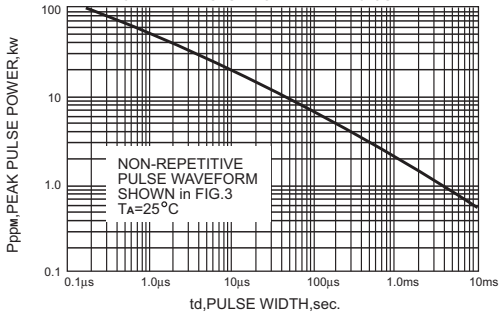


FIG. 2-PULSE DERATING CURVE

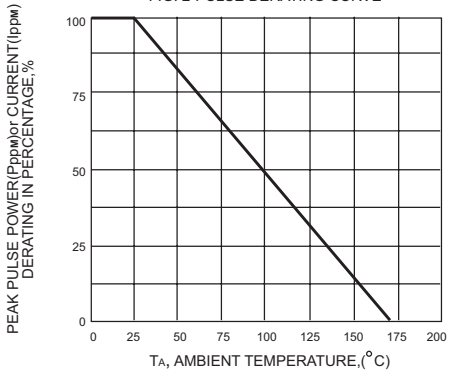


FIG.3-PULSE WAVEFORM

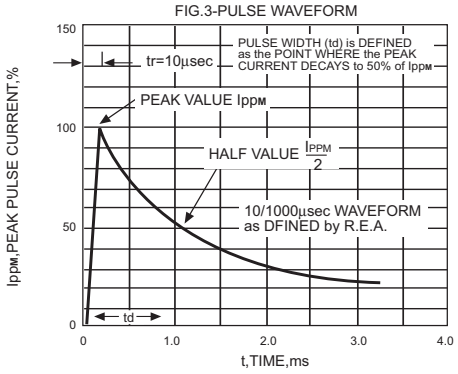


FIG. 4-TYPICAL JUNCTIONAL CAPACITANCE
UNIDIRECTIONAL

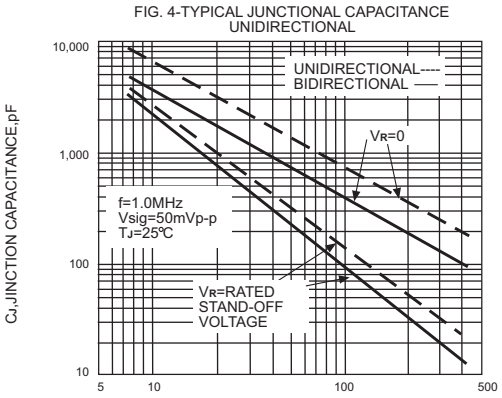


FIG.5-STEADY STATE POWER DERATING CURVE

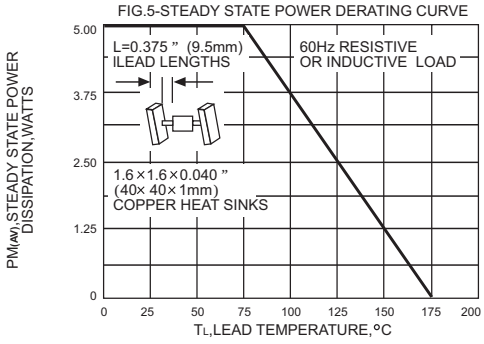


FIG.6-MAXIMUM NON-REPETITIVE FORWARD SURGE
CURRENT UNIDIRECTIONAL ONLY

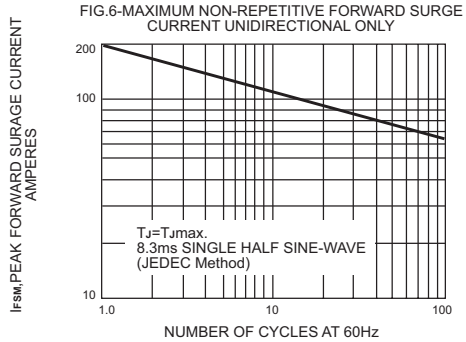


FIG.7-TYPICAL REVERSE LEAKAGE CHARCTERISTICS