SHANGHAI SUNRISE ELECTRONICS CO., LTD.

1.5KE6.8 THRU 1.5KE440CA

TRANSIENT VOLTAGE SUPPRESSOR

BREAKDOWN VOLTAGE:6.8-440V

PEAK PULSE POWER: 1500W

TECHNICAL SPECIFICATION

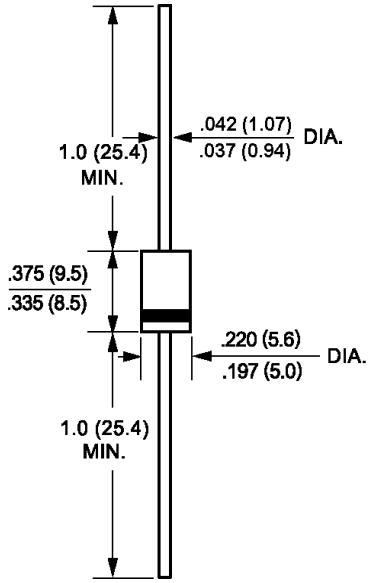
FEATURES

- 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 for bidirectional types.
- High temperature soldering guaranteed:
  265^{o}C/10S/9.5mm lead length at 5 lbs tension

MECHANICAL DATA

- Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
- Case: Molded with UL-94 Class V-O recognized flame retardant epoxy
- Polarity: Color band denotes cathode except for unidirectional types.
- Mounting position: Any

DO-201AE



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Ratings at 25^{o}C ambient temperature unless otherwise specified)

RATINGS	SYMBOL	VALUE	UNITS
Peak power dissipation (Note 1)	P_{ppm}	Minimum 1500	W
Peak pulse reverse current (Note 1)	I_{ppm}	See Table	A
Steady state power dissipation (Note 2)	$P_{m(av)}$	5.0	W
Peak forward surge current (Note 3)	I_{FSM}	200	A
Maximum instantaneous forward voltage at 50A for unidirectional only (Note 4)	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_{STG},T_J	-55 to + 175	^{o}C

Notes:

1. 10/1000μS waveform non-repetitive current pulse, and derated above Ta=25^{o}C
2. Tl=75^{o}C, lead length 9.5mm, Mounted on copper pad area of (20×20mm)
3. Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.
4. V_F=3.5V max. for devices of $V_{(BR)} \leqslant$200V, and V_F=5.0V max. for devices of $V_{(BR)}$ >200V

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. Suffix 'A' dnotes 5% tolerance device,no suffix 'A' dnotes 10% tolerance device.

2. For bidirectional use 'C' or 'CA' suffix for types 1.5KE6.8 thru types 1.5KE440A (e.g. 1.5KE7.5C,1.5KE440CA), for unidirectional don't use 'C' suffix after types.

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

4. Electrical characteristics apply in both directions.

ELECTRICAL CHARACTERISTICS

(at T_A=25°C unless otherwise noted)

JEDEC TYPE NUMBER	GENERAL PART NUMBER	Breakdown Voltage $V_{(BR)}$ (Volts) (NOTE 1)		Test Current I_T(mA)	Stand-off Voltage V_{WM} (Volts)	Maximum Reverse Leakage at V_{WM} I_D(μA) (NOTE3)	Maximum Peak Pulse Reverse Current Ippm (Amps) (NOTE 2)	Maximum Clamping Voltage at Ippm Vc(Volts)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/°C)
		MIN	MAX						
1N6267	**1.5KE6.8**	6.12	7.48	10.0	5.50	1000	139.0	10.8	0.057
1N6267A	**1.5KE6.8A**	6.45	7.14	10.0	5.80	1000	143.0	10.5	0.057
1N6268	**1.5KE7.5**	6.75	8.25	10.0	6.05	500	128.0	11.7	0.061
1N6268A	**1.5KE7.5A**	7.13	7.88	10.0	6.40	500	132.0	11.3	0.061
1N6269	**1.5KE8.2**	7.38	9.02	10.0	6.63	200	120.0	12.5	0.065
1N6269A	**1.5KE8.2A**	7.79	8.61	10.0	7.02	200	124.0	12.1	0.065
1N6270	**1.5KE9.1**	8.19	10.0	1.0	7.37	50	109.0	13.8	0.068
1N6270A	**1.5KE9.1A**	8.65	9.55	1.0	7.78	50	112.0	13.4	0.068
1N6271	**1.5KE10**	9.00	11.0	1.0	8.10	10	100.0	15.0	0.073
1N6271A	**1.5KE10A**	9.50	10.5	1.0	8.55	10	103.0	14.5	0.073
1N6272	**1.5KE11**	9.90	12.1	1.0	8.92	5.0	93.0	16.2	0.075
1N6272A	**1.5KE11A**	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1N6273	**1.5KE12**	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.078
1N6273A	**1.5KE12A**	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1N6274	**1.5KE13**	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081
1N6274A	**1.5KE13A**	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1N6275	**1.5KE15**	13.5	16.5	1.0	12.1	5.0	68.0	22.0	0.084
1N6275A	**1.5KE15A**	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1N6276	**1.5KE16**	14.4	17.6	1.0	12.9	5.0	64.0	23.5	0.086
1N6276A	**1.5KE16A**	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1N6277	**1.5KE18**	16.2	19.8	1.0	14.5	5.0	56.5	26.5	0.088
1N6277A	**1.5KE18A**	17.1	18.9	1.0	15.3	5.0	59.5	26.2	0.088
1N6278	**1.5KE20**	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090
1N6278A	**1.5KE20A**	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1N6279	**1.5KE22**	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092
1N6279A	**1.5KE22A**	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1N6280	**1.5KE24**	21.6	26.4	1.0	19.4	5.0	43.0	34.7	0.094
1N6280A	**1.5KE24A**	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1N6281	**1.5KE27**	24.3	29.7	1.0	21.8	5.0	38.0	39.1	0.096
1N6281A	**1.5KE27A**	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1N6282	**1.5KE30**	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097
1N6282A	**1.5KE30A**	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1N6283	**1.5KE33**	29.7	36.3	1.0	26.8	5.0	31.5	47.7	0.098
1N6283A	**1.5KE33A**	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1N6284	**1.5KE36**	32.4	39.6	1.0	29.1	5.0	29.0	52.0	0.099
1N6284A	**1.5KE36A**	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1N6285	**1.5KE39**	35.1	42.9	1.0	31.6	5.0	26.5	56.4	0.100
1N6285A	**1.5KE39A**	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1N6286	**1.5KE43**	38.7	47.3	1.0	34.8	5.0	24.0	61.9	0.101
1N6286A	**1.5KE43A**	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1N6287	**1.5KE47**	42.3	51.7	1.0	38.1	5.0	22.2	67.8	0.101
1N6287A	**1.5KE47A**	44.7	49.4	1.0	40.2	5.0	23.3	64.8	0.101
1N6288	**1.5KE51**	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102
1N6288A	**1.5KE51A**	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1N6289	**1.5KE56**	50.4	61.8	1.0	45.4	5.0	18.6	80.5	0.103
1N6289A	**1.5KE56A**	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103

ELECTRICAL CHARACTERISTICS

(at T_A=25°C unless otherwise noted)

JEDEC TYPE NUMBER	GENERAL PART NUMBER	Breakdown Voltage $V_{(BR)}$(Volts) (NOTE 1)		Test Current I_T(mA)	Stand-off Voltage V_{WM} (Volts)	Maximum Reverse Leakage at V_{WM} I_D(μA) (NOTE 3)	Maximum Peak Pulse Reverse Current Ippm (Amps) (NOTE 2)	Maximum Clamping Voltage at Ippm Vc(Volts)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/°C)
		MIN	MAX						
1N6290	**1.5KE62**	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104
1N6290A	**1.5KE62A**	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1N6291	**1.5KE68**	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
1N6291A	**1.5KE68A**	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1N6292	**1.5KE75**	67.5	82.5	1.0	60.7	5.0	13.9	109	0.105
1N6292A	**1.5K75A**	71.3	78.8	1.0	64.1	5.0	14.6	104	0.105
1N6293	**1.5KE82**	73.8	90.2	1.0	66.4	5.0	12.7	118	0.105
1N6293A	**1.5KE82A**	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
1N6294	**1.5KE91**	81.9	100.0	1.0	73.7	5.0	11.4	131	0.106
1N6294A	**1.5KE91A**	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
1N6295	**1.5KE100**	90.0	110	1.0	81.0	5.0	10.4	144	0.106
1N6295A	**1.5KE100A**	95.0	105	1.0	85.5	5.0	11.0	137	0.106
1N6296	**1.5KE110**	99.0	121	1.0	89.2	5.0	9.5	158	0.107
1N6296A	**1.5KE110A**	106	116	1.0	94.0	5.0	9.9	152	0.107
1N6297	**1.5KE120**	108	132	1.0	97.2	5.0	8.7	173	0.107
1N6297A	**1.5KE120A**	114	126	1.0	102	5.0	9.1	165	0.107
1N6298	**1.5KE130**	117	143	1.0	106	5.0	8.0	187	0.107
1N6298A	**1.5KE130A**	124	137	1.0	111	5.0	8.4	179	0.107
1N6299	**1.5KE150**	136	165	1.0	121	5.0	7.0	215	0.108
1N6299A	**1.5KE150A**	143	158	1.0	128	5.0	7.2	207	0.108
1N6300	**1.5KE160**	144	176	1.0	130	5.0	6.5	230	0.108
1N6300A	**1.5KE160A**	152	168	1.0	136	5.0	6.8	219	0.108
1N6301	**1.5KE170**	153	187	1.0	138	5.0	6.2	244	0.108
1N6301A	**1.5KE170A**	162	179	1.0	145	5.0	6.4	234	0.108
1N6302	**1.5KE180**	162	198	1.0	146	5.0	5.8	258	0.108
1N6302A	**1.5KE180A**	171	189	1.0	154	5.0	6.1	246	0.108
1N6303	**1.5KE200**	180	220	1.0	162	5.0	5.2	287	0.108
1N6303A	**1.5KE200A**	190	210	1.0	171	5.0	5.5	274	0.108
	1.5KE220	198	242	1.0	175	5.0	4.3	344	0.108
	1.5KE220A	209	231	1.0	185	5.0	4.6	328	0.108
	1.5KE250	225	275	1.0	202	5.0	5.0	360	0.110
	1.5KE250A	237	263	1.0	214	5.0	5.0	344	0.110
	1.5KE300	270	330	1.0	243	5.0	5.0	430	0.110
	1.5KE300A	285	315	1.0	256	5.0	5.0	414	0.110
	1.5KE350	315	385	1.0	284	5.0	4.0	504	0.110
	1.5KE350A	333	368	1.0	300	5.0	4.0	482	0.110
	1.5KE400	360	440	1.0	324	5.0	4.0	574	0.110
	1.5KE400A	380	420	1.0	342	5.0	4.0	548	0.110
	1.5KE440	396	484	1.0	356	5.0	2.4	631	0.110
	1.5KE440A	418	462	1.0	376	5.0	2.6	602	0.110

NOTES:

1. $V_{(BR)}$ measured after I_T applied for 300ms, I_T=square wave pulse or equivalent
2. Surge current waveform and derated
3. For bidirectional types having V_{WM} of 10 volts and less, the I_D limit is doubled