

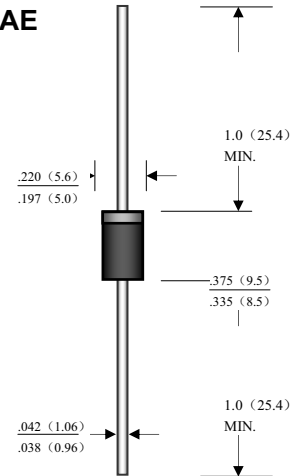
1.5KE SERIES

特性: FEATURES:

- ◆ 1500W 峰值脉冲功率
1500W peak pulse power capability
- ◆ 优良的箝制能力
Excellent clamping capability
- ◆ 较小的箝位因子
Low incremental surge resistance
- ◆ 快速响应时间: 从: 0 v到 V_{BR} , 单向型小于 1.0ps
Fast response time: typically less than 1.0ps from 0v to V_{BR} for unidirectional and 5.0ns for bidirectional types.

机械性能: MECHANICAL DATA:

- ◆ 封装: 模塑封装
Case: Molded plastic
- ◆ 封装材料: 用 UL94V-0 认可的阻燃环氧料
Epoxy: UL94V-0 rate flame retardant
- ◆ 引线: 电镀轴式引线可焊性符合 MIL-STD-202, 方法 208
Lead: Axial lead solderable per MIL-STD-202, method 208 guaranteed
- ◆ 极性: 色环表示阴极, 双向产品除外。
Polarity: Color band denotes cathode except Bipolar
- ◆ 安装位置: 任意
Mounting position: Any
- ◆ 重量: 1.1 克。
Weight: 1.1 grams

DO-201AE


1.5KE 系列瞬变电压抑制器
1.5KE SERIES TRANSIENT VOLTAGE SUPPRESSOR
尺寸单位: inch (mm)
Dimensions in inches and (millimeters)

最大额定值及电气特性 MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

测量环境温度为 25°C, 除非另有规定。单相半波, 50HZ, 阻性或感性负载。对于容性负载, 电流降额 20%
Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60HZ, resistive or inductive load.
For capacitive load, derate current by 20%

参数名称 PARAMETERS	符号 SYMBOL	额定值 VALUE	单位 UNITS
最大峰值脉冲功率 (注释 1) Peak power dissipation (Note1)	P_{ppm}	最小 Minimum 1500	W
最大峰值反向脉冲电流 (注释 1) Peak pulse reverse current (Note1)	I_{ppm}	见表 See Table	A
稳态功率 (注释 2) Steady state power dissipation (Note2)	$P_m (AV)$	5.0	W
最大峰值正向浪涌电流(注释 3) Peak Forward surge Current (Note3)	I_{FSM}	200	A
最大瞬态正向电压 @ 50 A 仅对单向型 Maximum instantaneous forward voltage at 50A For unidirectional only(Note4)	V_F	3.5 / 5.0 / 7.5	V
工作及储存温度 Operating and Storage Temperature Range	T_J, T_{STG}	-55~+175	°C

注释: NOTES:

1. 脉冲电流时间 10 / 1000 μ s。
10 / 1000 μ s waveform non-repetitive current pulse,
 2. $T_I=75^\circ\text{C}$, 在引线 9.5mm 处, 安装面积为 (40×40×1mm) 的散热铜片
 $T_I=75^\circ\text{C}$, lead lengths 0.375inches, Mounted on copper pad area of (1.6×1.6×0.040")
 3. 使用单相正弦半波, 时间 10ms; 或使用等效的方波, 4 周波/分。
Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
 4. $V_{(BR)} \leq 200V$, V_F 最大值为 3.5 V; $200V < V_{(BR)} < 440V$, V_F 最大值为 5.0V, $V_{(BR)} \geq 440V$, V_F 最大值为 7.5V。
 $V_F=3.5V$ max. for devices of $V_{(BR)} \leq 200V$, and $V_F= 5.0V$ max. for devices of $200V < V_{(BR)} < 440V$, $V_F= 7.5V$ max. for devices of $V_{(BR)} \geq 440V$
 5. 封装除 DO-201AE 外亦可采用 DO-201AD 形式。
Besides DO-201AE it can be the case of DO-201AD
双向型器件应用说明: DEVICES FOR BIDIRECTIONAL APPLICATIONS
1. 在型号名称后注有 C 或 CA, 表示双向型。
For bidirectional use C or CA suffix for types.
 2. 电气特性适用于两个方向。
Electrical characteristics apply in both directions.

1.5KE SERIES

电特性 (测量环境温度为25℃, 除非另有规定) ELECTRICAL CHARACTERISTICS (at TA=25 °C unless otherwise noted)										
型号 TYPE	型号 TYPE	击穿电压 BREAKDOWN VOLTAGE	测试电流 TEST CURRENT	变位电压 REVERSE STAND-OFF VOLTAGE	最大反向漏电流 REVERSE LEAKAGE	最大峰值 脉冲电流 PEAK PULSE CURRENT	最大钳位电压 MAXIMUM CLAMPING VOLTAGE	击穿电压 最大温度系数 MAXIMUM TEMPERATURE		
		V _(BR) (注释 1)		I _r	V _{WM}	I _D @V _{WM} (注释 2)	I _{ppm}	V _C @ I _{ppm}		
		V(最小 MIN)	V(最大 MAX)	mA	V	μ A	A	V	% / °C	
1N6267	1.5KE6.8	6.12	7.48	10.0	5.50	1000.0	145.0	10.8	0.057	
1N6267A	1.5KE6.8A	6.45	7.14	10.0	5.80	1000.0	150.0	10.5	0.057	
1N6268	1.5KE7.5	6.75	8.25	10.0	6.05	500.0	134.0	11.7	0.061	
1N6268A	1.5KE7.5A	7.13	7.88	10.0	6.40	500.0	139.0	11.3	0.061	
1N6269	1.5KE8.2	7.38	9.02	10.0	6.63	200.0	126.0	12.5	0.065	
1N6269A	1.5KE8.2A	7.79	8.61	10.0	7.02	200.0	130.0	12.1	0.065	
1N6270	1.5KE9.1	8.19	10.0	1.0	7.37	50.0	114.0	13.8	0.068	
1N6270A	1.5KE9.1A	8.65	9.55	1.0	7.78	50.0	117.0	13.4	0.068	
1N6271	1.5KE10	9.00	11.0	1.0	8.10	10.0	105.0	15.0	0.073	
1N6271A	1.5KE10A	9.50	10.5	1.0	8.55	10.0	108.0	14.5	0.073	
1N6272	1.5KE11	9.90	12.1	1.0	8.92	5.0	97.0	16.2	0.075	
1N6272A	1.5KE11A	10.5	11.6	1.0	9.40	5.0	100.0	15.6	0.075	
1N6273	1.5KE12	10.8	13.2	1.0	9.72	5.0	91.0	17.3	0.078	
1N6273A	1.5KE12A	11.4	12.6	1.0	10.2	5.0	94.0	16.7	0.078	
1N6274	1.5KE13	11.7	14.3	1.0	10.5	5.0	82.0	19.0	0.081	
1N6274A	1.5KE13A	12.4	13.7	1.0	11.1	5.0	86.0	18.2	0.081	
1N6275	1.5KE15	13.5	16.5	1.0	12.1	5.0	71.0	22.0	0.084	
1N6275A	1.5KE15A	14.3	15.8	1.0	12.8	5.0	74.0	21.2	0.084	
1N6276	1.5KE16	14.4	17.6	1.0	12.9	5.0	67.0	23.5	0.086	
1N6276A	1.5KE16A	15.2	16.8	1.0	13.6	5.0	70.0	22.5	0.086	
1N6277	1.5KE18	16.2	19.8	1.0	14.5	5.0	59.0	26.5	0.088	
1N6277A	1.5KE18A	17.1	18.9	1.0	15.3	5.0	60.0	25.2	0.088	
1N6278	1.5KE20	18.0	22.0	1.0	16.2	5.0	54.0	29.1	0.090	
1N6278A	1.5KE20A	19.0	21.0	1.0	17.1	5.0	56.0	27.7	0.090	
1N6279	1.5KE22	19.8	24.2	1.0	17.8	5.0	49.0	31.9	0.092	
1N6279A	1.5KE22A	20.9	23.1	1.0	18.8	5.0	51.0	30.6	0.092	
1N6280	1.5KE24	21.6	26.4	1.0	19.4	5.0	45.0	34.7	0.094	
1N6280A	1.5KE24A	22.8	25.2	1.0	20.5	5.0	47.0	33.2	0.094	
1N6281	1.5KE27	24.3	29.7	1.0	21.8	5.0	40.0	39.1	0.096	
1N6281A	1.5KE27A	25.7	28.4	1.0	23.1	5.0	42.0	37.5	0.096	
1N6282	1.5KE30	27.0	33.0	1.0	24.3	5.0	36.0	43.5	0.097	
1N6282A	1.5KE30A	28.5	31.5	1.0	25.6	5.0	38.0	41.4	0.097	
1N6283	1.5KE33	29.7	36.3	1.0	26.8	5.0	33.0	47.7	0.098	
1N6283A	1.5KE33A	31.4	34.7	1.0	28.2	5.0	34.0	45.7	0.098	
1N6284	1.5KE36	32.4	39.6	1.0	29.1	5.0	30.0	52.0	0.099	
1N6284A	1.5KE36A	34.2	37.8	1.0	30.8	5.0	31.0	49.9	0.099	
1N6285	1.5KE39	35.1	42.9	1.0	31.6	5.0	27.0	56.4	0.100	
1N6285A	1.5KE39A	37.1	41.0	1.0	33.3	5.0	29.0	53.9	0.100	
1N6286	1.5KE43	38.7	47.3	1.0	34.8	5.0	25.0	61.9	0.101	
1N6286A	1.5KE43A	40.9	45.2	1.0	36.8	5.0	26.0	59.3	0.101	
1N6287	1.5KE47	42.3	51.7	1.0	38.1	5.0	23.0	67.8	0.101	
1N6287A	1.5KE47A	44.7	49.4	1.0	40.2	5.0	24.0	64.8	0.101	
1N6288	1.5KE51	45.9	56.1	1.0	41.3	5.0	21.0	73.5	0.102	
1N6288A	1.5KE51A	48.5	53.6	1.0	43.6	5.0	22.0	70.1	0.102	
1N6289	1.5KE56	50.4	61.6	1.0	45.4	5.0	19.0	80.5	0.103	
1N6289A	1.5KE56A	53.2	58.8	1.0	47.8	5.0	20.0	77.0	0.103	
1N6290	1.5KE62	55.8	68.2	1.0	50.2	5.0	17.0	89.0	0.104	
1N6290A	1.5KE62A	58.9	65.1	1.0	53.0	5.0	18.0	85.0	0.104	
1N6291	1.5KE68	61.2	74.8	1.0	55.1	5.0	16.0	98.0	0.104	

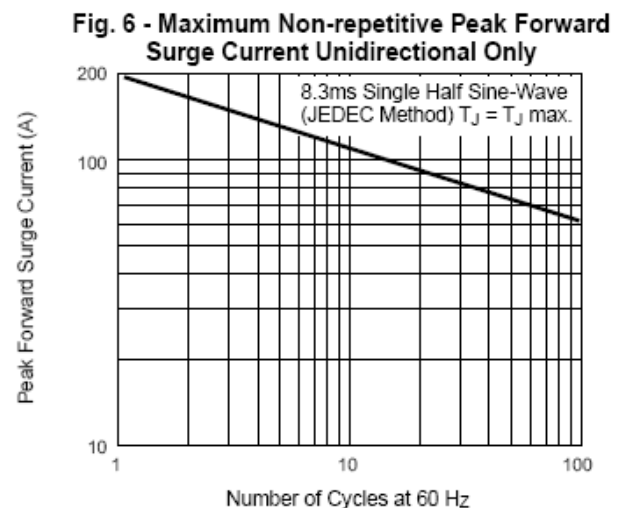
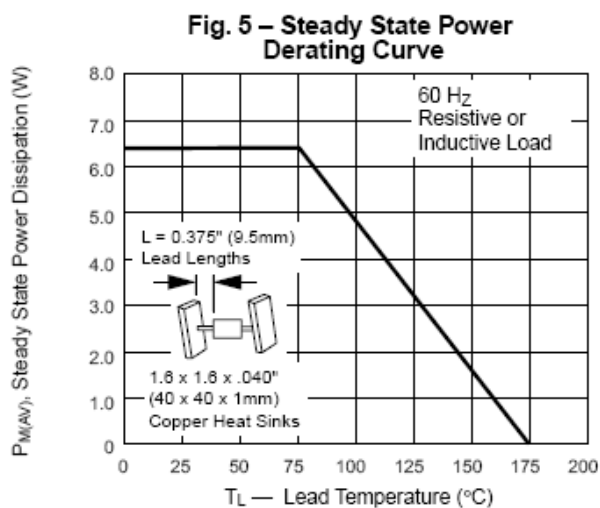
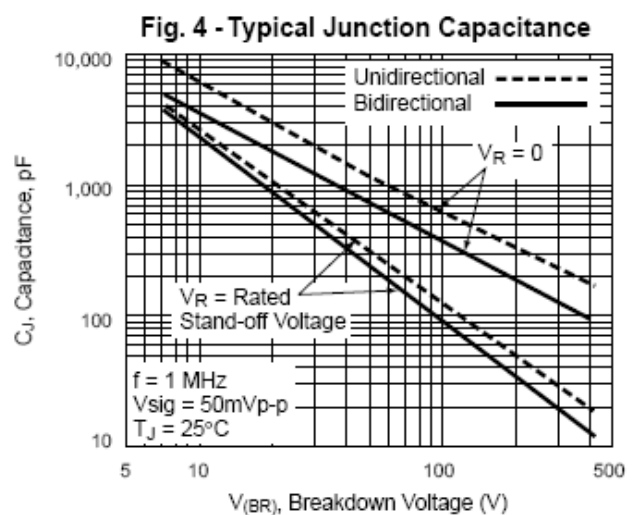
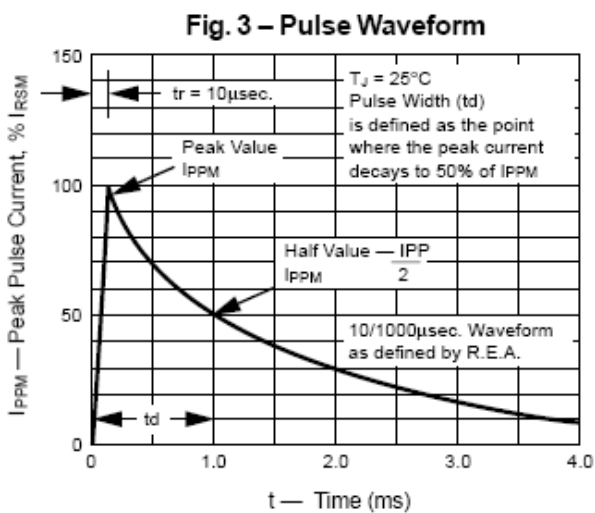
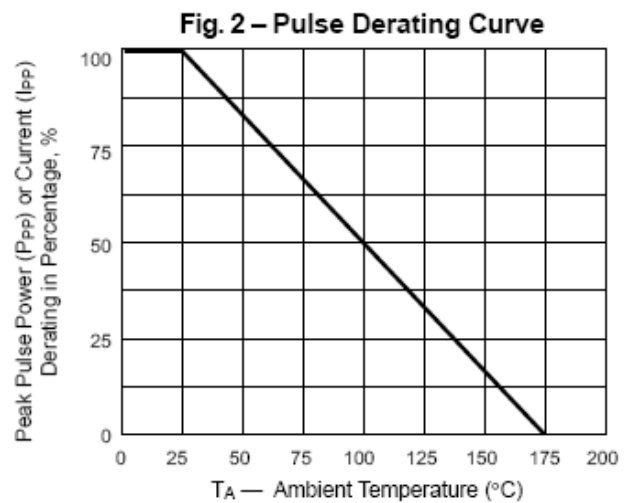
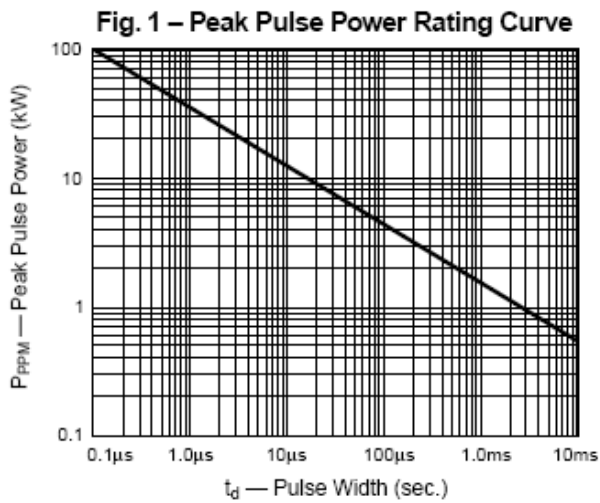
电特性 (测量环境温度为25℃, 除非另有规定)

型号 TYPE	型号 TYPE	击穿电压 BREAKDOWN VOLTAGE	测试电流 TEST CURRENT	变位电压 REVERSE STAND-OFF	最大反向漏电流 REVERSE LEAKAGE	最大峰值 脉冲电流 PEAK PULSE	最大钳位电压 MAXIMUM CLAMPING	击穿电压 最大温度系数 MAXIMUM	
		V _(BR) (注释 1)		I _T	V _{WM}	I ₀ @V _{WM} (注释 2)	I _{ppm}	V _C @ I _{ppm}	
		V(最小 MIN)	V(最大 MAX)	mA	V	μA	A	V	% / °C
1N6293	1.5KE82	73.8	90.2	1.0	66.4	5.0	13.0	118	0.105
1N6293A	1.5KE82A	77.9	86.1	1.0	70.1	5.0	13.9	113	0.105
1N6294	1.5KE91	81.9	100.0	1.0	73.7	5.0	12.0	131	0.106
1N6294A	1.5KE91A	86.5	95.5	1.0	77.8	5.0	12.6	125	0.106
1N6295	1.5KE100	90.0	110	1.0	81.0	5.0	10.9	144	0.106
1N6295A	1.5KE100A	95.0	105	1.0	85.5	5.0	11.4	137	0.106
1N6296	1.5KE110	99.0	121	1.0	89.2	5.0	9.9	158	0.107
1N6296A	1.5KE110A	105	116	1.0	94.0	5.0	10.3	152	0.107
1N6297	1.5KE120	108	132	1.0	97.2	5.0	9.1	173	0.107
1N6297A	1.5KE120A	114	126	1.0	102	5.0	9.5	165	0.107
1N6298	1.5KE130	117	143	1.0	106	5.0	8.4	187	0.107
1N6298A	1.5KE130A	124	137	1.0	111	5.0	8.7	179	0.107
1N6299	1.5KE150	135	165	1.0	121	5.0	7.3	215	0.108
1N6299A	1.5KE150A	143	158	1.0	128	5.0	7.6	207	0.108
1N6300	1.5KE160	144	176	1.0	130	5.0	6.8	230	0.108
1N6300A	1.5KE160A	152	168	1.0	136	5.0	7.1	219	0.108
1N6301	1.5KE170	153	187	1.0	138	5.0	6.4	244	0.108
1N6301A	1.5KE170A	162	179	1.0	145	5.0	6.7	234	0.108
1N6302	1.5KE180	162	198	1.0	146	5.0	6.1	258	0.108
1N6302A	1.5KE180A	171	189	1.0	154	5.0	6.4	246	0.108
1N6303	1.5KE200	180	220	1.0	162	5.0	5.4	287	0.108
1N6303A	1.5KE200A	190	210	1.0	171	5.0	5.7	274	0.108
	1.5KE220	198	242	1.0	175	5.0	4.5	344	0.108
	1.5KE220A	209	231	1.0	185	5.0	4.8	328	0.108
	1.5KE250	225	275	1.0	202	5.0	4.3	360	0.110
	1.5KE250A	237	263	1.0	214	5.0	4.5	344	0.110
	1.5KE300	270	330	1.0	243	5.0	3.6	430	0.110
	1.5KE300A	285	315	1.0	256	5.0	3.8	414	0.110
	1.5KE350	315	385	1.0	284	5.0	3.1	504	0.110
	1.5KE350A	333	368	1.0	300	5.0	3.2	482	0.110
	1.5KE400	360	440	1.0	324	5.0	2.7	574	0.110
	1.5KE400A	380	420	1.0	342	5.0	2.8	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
	1.5KE480	432	528	1.0	389	5.0	2.19	686	0.110
	1.5KE480A	456	504	1.0	408	5.0	2.28	658	0.110
	1.5KE500	450	550	1.0	400	5.0	2.15	698	0.110
	1.5KE500A	475	525	1.0	428	5.0	2.25	667	0.110
	1.5KE510	459	561	1.0	413	5.0	2.06	729	0.110
	1.5KE510A	485	535	1.0	434	5.0	2.15	698	0.110
	1.5KE540	486	594	1.0	437	5.0	1.94	772	0.110
	1.5KE540A	513	567	1.0	459	5.0	2.03	740	0.110
	1.5KE550	495	605	1.0	440	5.0	1.85	811	0.110
	1.5KE550A	523	578	1.0	470	5.0	1.93	779	0.110
	1.5KE600	540	660	1.0	480	5.0	1.73	870	0.120
	1.5KE600A	570	630	1.0	513	5.0	1.77	850	0.120

注 释 (Notes):

1. V (BR) 值在施加t=300μs后测量, I_T为方波或等效的脉冲波形。V (BR) measured after IT applied for 300 μs, IT = square pulse or equivalent
2. 对于双向型, VR_{WM}在10V以下, I₀值加倍。For bidirectional types having VR_{WM} of 10 volts and less, the ID limit is doubled.
3. 在型号名称后注有 C 或 CA , 表示双向型, 电气特性适用于两个方向。For bidirectional use C or CA suffix for types 1.5KE6.8 thru type1.5KE600, Electrical characteristics apply in both directions.

RATINGS AND CHARACTERISTIC CURVES



RATINGS AND CHARACTERISTIC CURVES

Fig. 7 – Incremental Clamping Voltage Curve (Unidirectional)

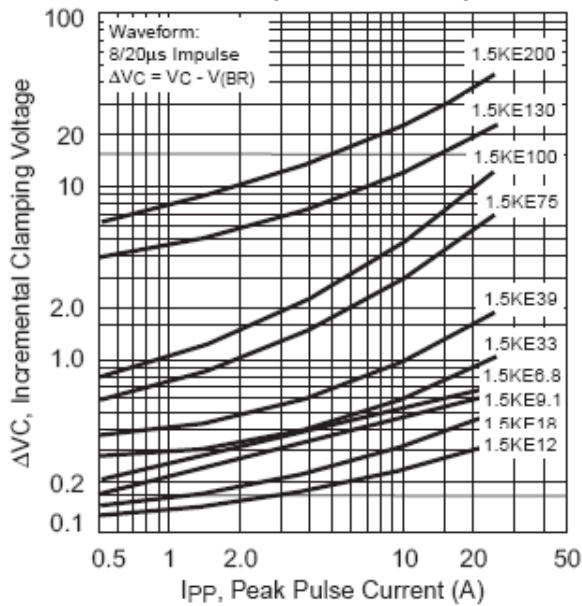


Fig. 8 – Incremental Clamping Voltage Curve (Unidirectional)

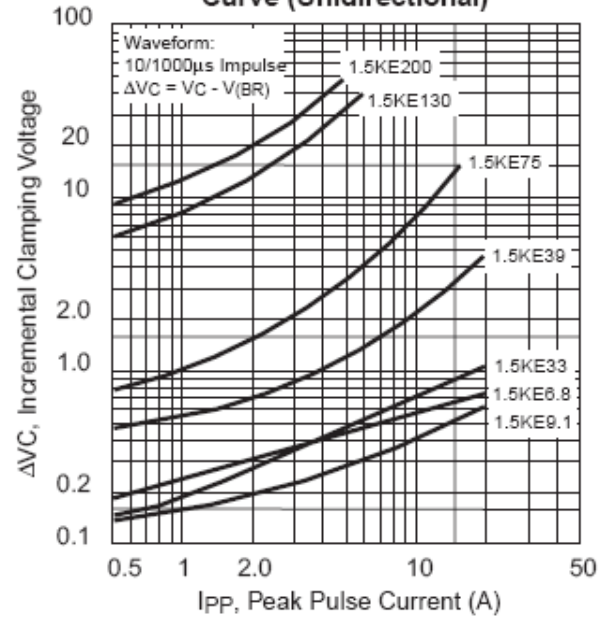


Fig.9 – Incremental Clamping Voltage Curve (Bidirectional)

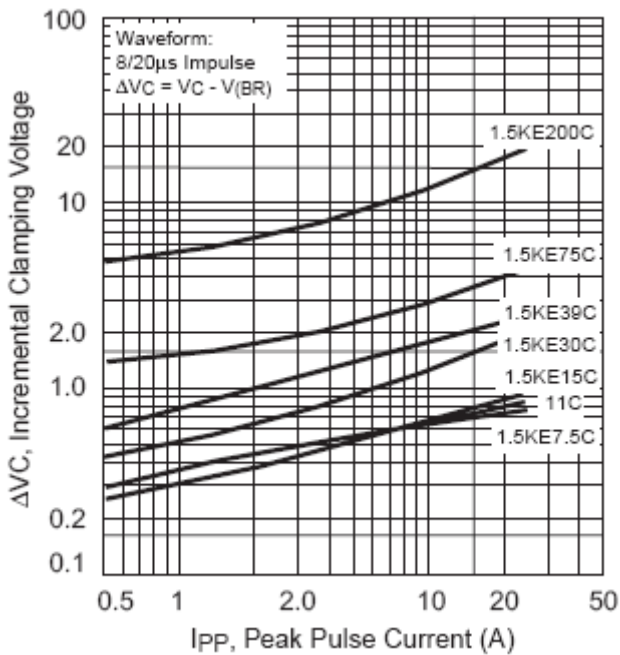
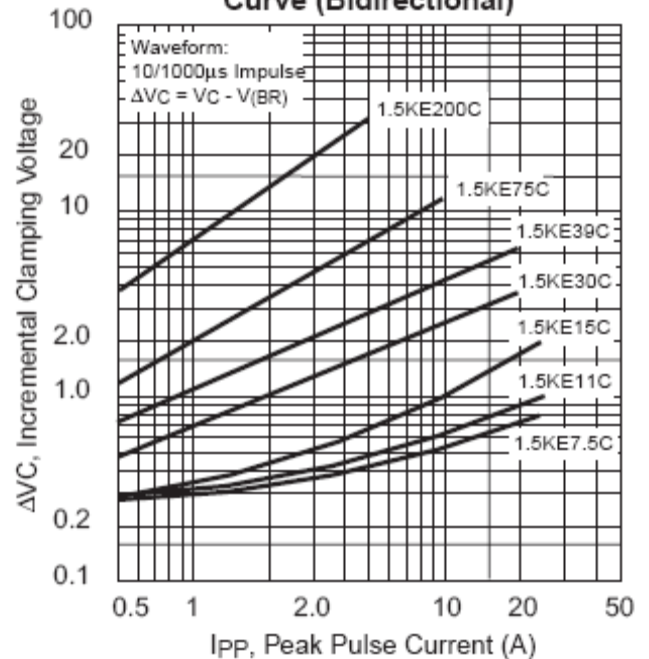


Fig. 10 – Incremental Clamping Voltage Curve (Bidirectional)



RATINGS AND CHARACTERISTIC CURVES

Fig. 11 – Instantaneous Forward Voltage Characteristics Curve

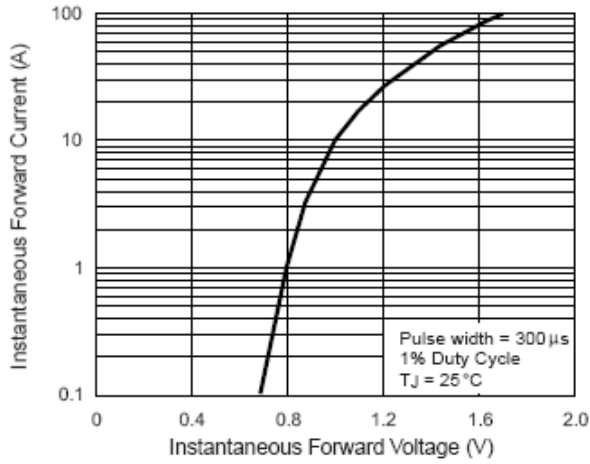


Fig. 12 – Typical Transient Thermal Impedance

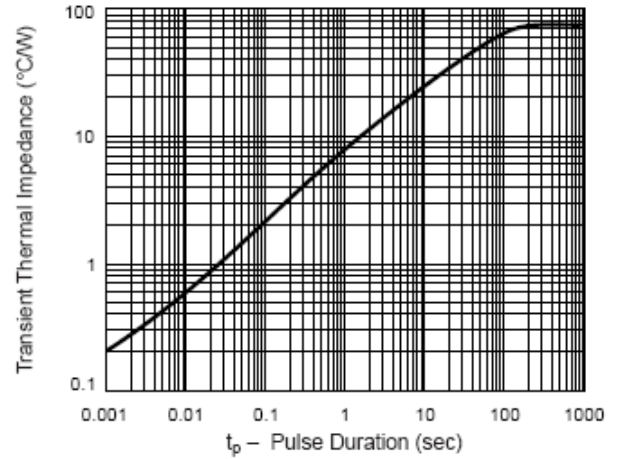


Fig. 13 – Typical Reverse Leakage Characteristics

