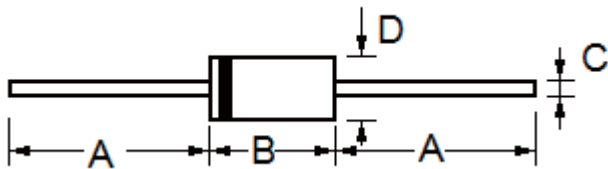


Transient Voltage Suppression Diodes

Axial Leaded 1500W TVS Diode 1.5KE Series

The 1.5KE Series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.



DO-201AE

Dimension

Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	25.4	---	1.000	---
B	7.2	9.5	0.285	0.375
C	0.94	1.07	0.037	0.042
D	4.8	5.3	0.188	0.210

Maximum Ratings And Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Parameter	Symbol	Value	Units
Peak Power Dissipation (Note 1.) @ $T_L = 25^\circ\text{C}$, Pulse Width = 1 ms	P_{PK}	1500	W
Forward Surge Current (Note 2.) @ $T_A = 25^\circ\text{C}$	I_{FSM}	100	A
Power Dissipation On Infinite Heatsink, @ $T_A = 50^\circ\text{C}$	$P_{M(AV)}$	5.0	W
Thermal Resistance Junction To Ambient Air (Note 3.)	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Thermal Resistance Junction To Leads	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Operating & Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

- 1) 10 X 1000 us, non-repetitive
- 2) 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum
- 3) Mounted on minimum recommended pad layout

Transient Voltage Suppression Diodes

Axial Leaded 1500W TVS Diode 1.5KE Series

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT			Maximum Reverse Leakage IR @ VR (µA)	Maximum Clamping Voltage VC @ IPP (Volts)	Maximum Peak Pulse Current IPP (A)	Max Voltage Temperature Variation of VBR (%/° C)
			MIN	MAX	mA				
1.5KE6.8	1.5KE6.8C	5.50	6.12	7.48	10.0	500.0	10.8	140.7	0.057
1.5KE6.8A	1.5KE6.8CA	5.80	6.45	7.14	10.0	500.0	10.5	144.8	0.057
1.5KE7.5	1.5KE7.5C	6.05	6.75	8.25	10.0	250.0	11.7	129.9	0.061
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10.0	250.0	11.3	134.5	0.061
1.5KE8.2	1.5KE8.2C	6.63	7.38	9.02	10.0	100.0	12.5	121.6	0.065
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10.0	100.0	12.1	125.6	0.065
1.5KE9.1	1.5KE9.1C	7.37	8.19	10.00	1.0	50.0	13.8	110.1	0.068
1.5KE9.1A	1.5KE9.1CA	7.78	8.60	9.55	1.0	50.0	13.4	113.4	0.068
1.5KE10	1.5KE10C	8.10	9.00	11.00	1.0	10.0	15.0	101.3	0.073
1.5KE10A	1.5KE10CA	8.55	9.50	10.50	1.0	10.0	14.5	104.8	0.073
1.5KE11	1.5KE11C	8.92	9.90	12.10	1.0	5.0	16.2	93.8	0.075
1.5KE11A	1.5KE11CA	9.40	10.50	11.60	1.0	5.0	15.6	97.4	0.075
1.5KE12	1.5KE12C	9.79	10.80	13.20	1.0	5.0	17.3	87.9	0.078
1.5KE12A	1.5KE12CA	10.2	11.40	12.60	1.0	5.0	16.7	91.0	0.078
1.5KE13	1.5KE13C	10.5	11.70	14.30	1.0	5.0	19.0	80.0	0.081
1.5KE13A	1.5KE13CA	11.1	12.40	13.70	1.0	5.0	18.2	83.5	0.081
1.5KE15	1.5KE15C	12.1	13.50	16.50	1.0	5.0	22.0	69.1	0.084
1.5KE15A	1.5KE15CA	12.8	14.30	15.80	1.0	5.0	21.2	71.7	0.084
1.5KE16	1.5KE16C	12.9	14.40	17.60	1.0	5.0	23.5	64.7	0.086
1.5KE16A	1.5KE16CA	13.6	15.20	16.80	1.0	5.0	22.5	67.6	0.086
1.5KE18	1.5KE18C	14.5	16.20	19.80	1.0	5.0	26.5	57.4	0.088
1.5KE18A	1.5KE18CA	15.3	17.10	18.90	1.0	5.0	25.2	60.3	0.088
1.5KE20	1.5KE20C	16.2	18.00	22.00	1.0	5.0	29.1	52.2	0.090
1.5KE20A	1.5KE20CA	17.1	19.00	21.00	1.0	5.0	27.7	54.9	0.090
1.5KE22	1.5KE22C	17.8	19.80	24.20	1.0	5.0	31.9	47.6	0.092
1.5KE22A	1.5KE22CA	18.8	20.90	23.10	1.0	5.0	30.6	49.7	0.092
1.5KE24	1.5KE24C	19.4	21.60	26.40	1.0	5.0	34.7	43.8	0.094
1.5KE24A	1.5KE24CA	20.5	22.80	25.20	1.0	5.0	33.2	45.8	0.094

Transient Voltage Suppression Diodes

Axial Leaded 1500W TVS Diode 1.5KE Series

1.5KE27	1.5KE27C	21.8	24.30	29.70	1.0	5.0	39.1	38.9	0.096
1.5KE27A	1.5KE27CA	23.1	25.70	28.40	1.0	5.0	37.5	40.5	0.096
1.5KE30	1.5KE30C	24.3	27.00	33.00	1.0	5.0	43.5	34.9	0.097
1.5KE30A	1.5KE30CA	25.6	28.50	31.50	1.0	5.0	41.4	36.7	0.097
1.5KE33	1.5KE33C	26.8	29.70	36.30	1.0	5.0	47.7	31.9	0.098
1.5KE33A	1.5KE33CA	28.2	31.40	34.70	1.0	5.0	45.7	33.3	0.098
1.5KE36	1.5KE36C	29.1	32.40	39.60	1.0	5.0	52.0	29.2	0.099
1.5KE36A	1.5KE36CA	30.8	34.20	37.80	1.0	5.0	49.9	30.5	0.099
1.5KE39	1.5KE39C	31.6	35.10	42.90	1.0	5.0	56.4	27.0	0.100
1.5KE39A	1.5KE39CA	33.3	37.10	41.00	1.0	5.0	53.9	28.2	0.100
1.5KE43	1.5KE43C	34.8	38.70	47.30	1.0	5.0	61.9	24.6	0.101
1.5KE43A	1.5KE43CA	36.8	40.90	45.20	1.0	5.0	59.3	25.6	0.101
1.5KE47	1.5KE47C	38.1	42.30	51.70	1.0	5.0	67.8	22.4	0.101
1.5KE47A	1.5KE47CA	40.2	44.70	49.40	1.0	5.0	64.8	23.5	0.101
1.5KE51	1.5KE51C	41.3	45.90	56.10	1.0	5.0	73.5	20.7	0.102
1.5KE51A	1.5KE51CA	43.6	48.50	53.60	1.0	5.0	70.1	21.7	0.102
1.5KE56	1.5KE56C	45.4	50.40	61.60	1.0	5.0	80.5	18.9	0.103
1.5KE56A	1.5KE56CA	47.8	53.20	58.80	1.0	5.0	77.0	19.7	0.103
1.5KE62	1.5KE62C	50.2	55.80	68.20	1.0	5.0	89.0	17.1	0.104
1.5KE62A	1.5KE62CA	53.0	58.90	65.10	1.0	5.0	85.0	17.9	0.104
1.5KE68	1.5KE68C	55.1	61.20	74.80	1.0	5.0	98.0	13.5	0.104
1.5KE68A	1.5KE68CA	58.1	64.60	71.40	1.0	5.0	92.0	16.5	0.104
1.5KE75	1.5KE75C	60.7	67.50	82.50	1.0	5.0	108.0	14.1	0.105
1.5KE75A	1.5KE75CA	64.1	71.30	78.80	1.0	5.0	103.0	14.8	0.105
1.5KE82	1.5KE82C	66.4	73.80	90.20	1.0	5.0	118.0	12.9	0.105
1.5KE82A	1.5KE82CA	70.1	77.90	86.10	1.0	5.0	113.0	13.5	0.105
1.5KE91	1.5KE91C	73.7	81.90	100.00	1.0	5.0	131.0	11.6	0.106
1.5KE91A	1.5KE91CA	77.8	86.50	95.50	1.0	5.0	125.0	12.2	0.106
1.5KE100	1.5KE100C	81.0	90.00	110.00	1.0	5.0	144.0	10.6	0.106
1.5KE100A	1.5KE100CA	85.5	95.00	105.00	1.0	5.0	137.0	11.1	0.106
1.5KE110	1.5KE110C	89.2	99.00	121.00	1.0	5.0	158.0	9.6	0.107
1.5KE110A	1.5KE110CA	94.0	105.00	116.00	1.0	5.0	152.0	10.0	0.107

Transient Voltage Suppression Diodes

Axial Leaded 1500W TVS Diode 1.5KE Series

1.5KE120	1.5KE120C	97.2	108.00	132.00	1.0	5.0	173.0	8.7	0.107
1.5KE120A	1.5KE120CA	102	114.00	126.00	1.0	5.0	165.0	9.2	0.107
1.5KE130	1.5KE130C	105	117.00	143.00	1.0	5.0	187.0	8.1	0.107
1.5KE130A	1.5KE130CA	111	124.00	137.00	1.0	5.0	179.0	8.5	0.107
1.5KE150	1.5KE150C	121	135.00	165.00	1.0	5.0	215.0	7.1	0.108
1.5KE150A	1.5KE150CA	128	143.00	158.00	1.0	5.0	207.0	7.3	0.108
1.5KE160	1.5KE160CC	130	144.00	176.00	1.0	5.0	230.0	6.6	0.108
1.5KE160A	1.5KE160CA	136	152.00	168.00	1.0	5.0	219.0	6.9	0.108
1.5KE170	1.5KE170C	138	153.00	187.00	1.0	5.0	244.0	6.2	0.108
1.5KE170A	1.5KE170CA	145	162.00	179.00	1.0	5.0	234.0	6.5	0.108
1.5KE180	1.5KE180C	146	162.00	198.00	1.0	5.0	258.0	5.9	0.108
1.5KE180A	1.5KE180CA	154	171.00	189.00	1.0	5.0	246.0	6.2	0.108
1.5KE200	1.5KE200C	162	180.00	220.00	1.0	5.0	287.0	5.3	0.108
1.5KE200A	1.5KE200CA	171	190.00	210.00	1.0	5.0	274.0	5.5	0.108
1.5KE220	1.5KE220C	175	198.00	242.00	1.0	5.0	344.0	4.4	0.108
1.5KE220A	1.5KE220CA	185	209.00	231.00	1.0	5.0	328.0	4.6	0.108
1.5KE250	1.5KE250C	202	225.00	275.00	1.0	5.0	360.0	4.2	0.110
1.5KE250A	1.5KE250CA	214	237.00	263.00	1.0	5.0	344.0	4.4	0.110
1.5KE300	1.5KE300C	243	270.00	330.00	1.0	5.0	430.0	3.5	0.110
1.5KE300A	1.5KE300CA	256	285.00	315.00	1.0	5.0	414.0	3.7	0.110
1.5KE350	1.5KE350C	284	315.00	385.00	1.0	5.0	504.0	3.0	0.110
1.5KE350A	1.5KE350CA	300	332.00	368.00	1.0	5.0	482.0	3.2	0.110
1.5KE400	1.5KE400C	324	360.00	440.00	1.0	5.0	574.0	2.6	0.110
1.5KE400A	1.5KE400CA	342	380.00	420.00	1.0	5.0	548.0	2.8	0.110
1.5KE440	1.5KE440C	356	396.00	484.00	1.0	5.0	631.0	2.4	0.110
1.5KE440A	1.5KE440CA	376	418.00	462.00	1.0	5.0	602.0	2.5	0.110

For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

1. A transient suppressor is normally selected according to the working peak reverse voltage (VRWM), which should be equal to or greater than the DC or continuous peak operating voltage level.
2. VBR measured at pulse test current IT at an ambient temperature of 25°C.
3. Surge current waveform per Figure 1 and derate per Figure 3.

Transient Voltage Suppression Diodes Axial Leaded 1500W TVS Diode 1.5KE Series

Typical Characteristics

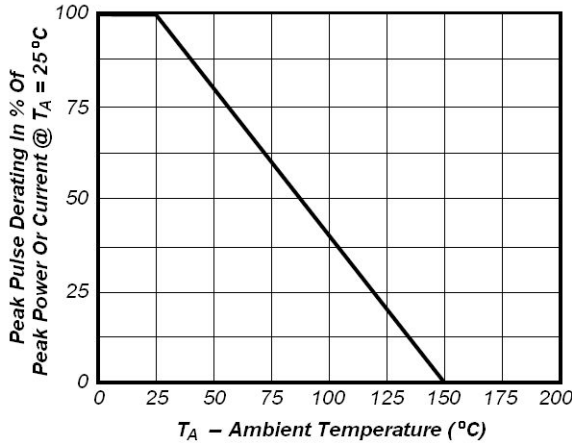


Fig1. Pulse Dearing Curve

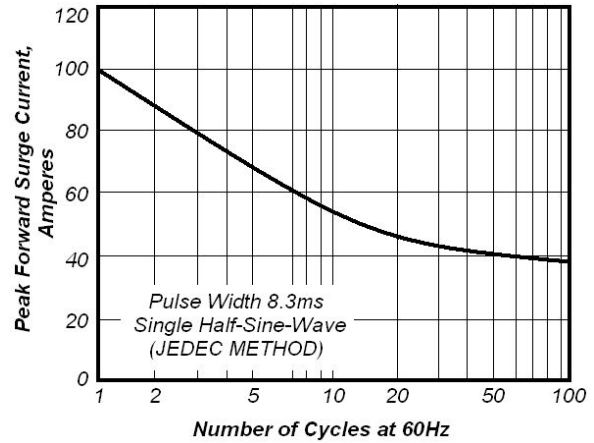


Fig2. Maximum Non-Repetitive Peak Forward Surge Current

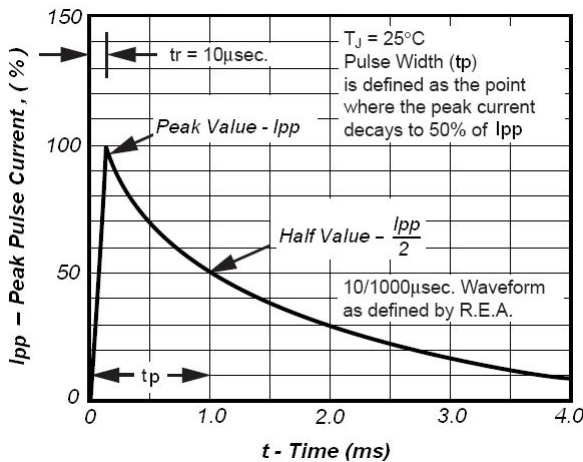


Fig3. Pulse Waveform

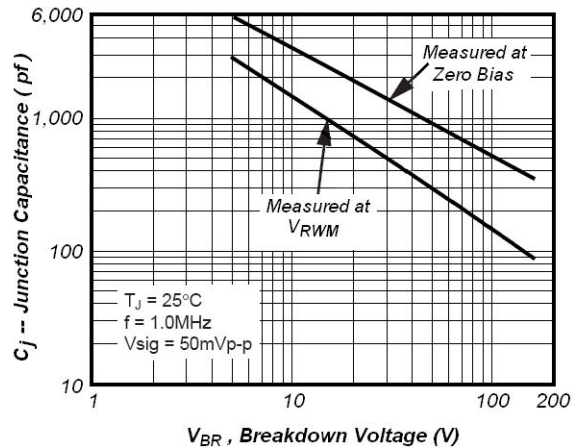


Fig4. Typical Junction Capacitance

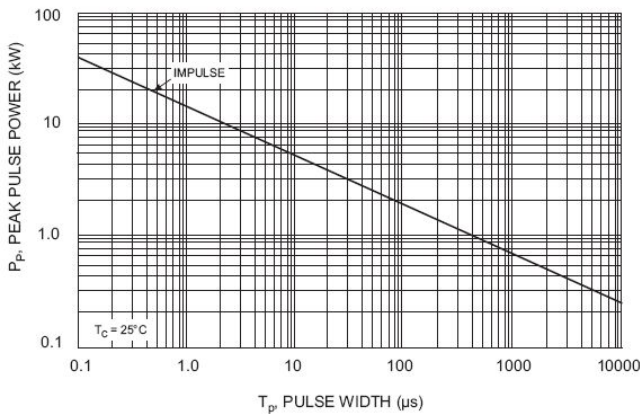


Fig5. Peak Pulse Power Rating curve

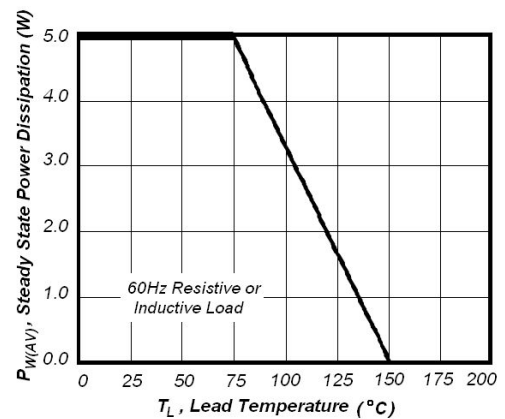


Fig6. Steady State Power Derating Curv