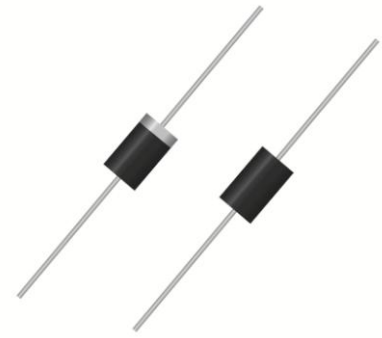


# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leaded Type 1500 W

### ■ Features

1. Reliable low cost construction utilizing molded plastic technique
2. Both bi-directional and uni-directional devices are available
3. Fast response time
4. Excellent clamping capacity
5. 1500 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetition rate (duty cycle): 0.01%



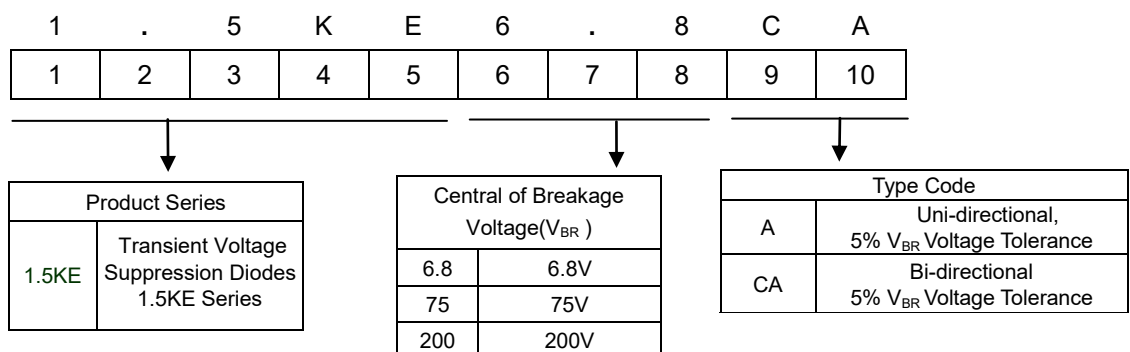
### ■ Recommended Applications

1. Telecommunication
2. Computer
3. Industrial device
4. Consumer electronic device

### ■ Mechanical Data

1. Package: DO-27(DO-201AE)
2. Terminal: Matte Tin-plated leads, solderable per MIL-STD-750, Method 2026
3. Polarity: The band denotes cathode (Note: no polarity indicator for bi-directional devices)

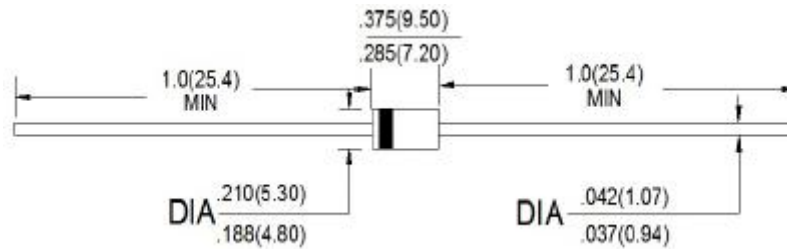
### ■ Part Number Code



## Axial Leaded Type 1500 W

### ■ Structures and Dimensions

#### DO-27(DO-201AE)



Unit: inch(millimeter)

### ■ Maximum Rating ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at $T_A=25^\circ\text{C}$ by 10/1000 $\mu\text{s}$ waveform	$P_{PPM}$	1500	W
Peak Pulse Current of on 10/1000 $\mu\text{s}$ waveform.	$I_{PPM}$	See Table	A
Peak forward surge current, 8.3ms single half sine wave on rated load	$I_{FSM}$	200	A
Steady State Power Dissipation $T_L=75^\circ\text{C}$	$P_D$	6.5	W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55~+150	$^\circ\text{C}$

# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leaded Type 1500 W

### ■ Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage $V_{BR}$ @ IT		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{pp}$	Maximum Peak Pulse Current	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$
		$V_{RWM}$ ( V )	Min( V )	Max( V )	$I_T$ ( mA )	$V_C$ ( V )	$I_{pp}$ (A)	$I_R$ ( $\mu$ A)
1.5KE6.8A	1.5KE6.8CA	5.8	6.5	7.1	10	10.5	143.0	1000
1.5KE7.5A	1.5KE7.5CA	6.4	7.1	7.9	10	11.3	133.0	500
1.5KE8.2A	1.5KE8.2CA	7.0	7.8	8.6	10	12.1	124.0	200
1.5KE9.1A	1.5KE9.1CA	7.8	8.6	9.6	1	13.4	112.0	50
1.5KE10A	1.5KE10CA	8.6	9.5	10.5	1	14.5	103.0	10
1.5KE11A	1.5KE11CA	9.4	10.5	11.6	1	15.6	96.2	5
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1	16.7	89.8	5
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1	18.2	82.4	5
1.5KE15A	1.5KE15CA	12.8	14.3	15.8	1	21.2	70.8	5
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1	22.5	66.7	5
1.5KE18A	1.5KE18CA	15.3	17.1	18.9	1	25.2	59.5	5
1.5KE20A	1.5KE20CA	17.1	19.0	21.0	1	27.7	54.2	5
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1	30.6	49.0	5
1.5KE24A	1.5KE24CA	20.5	22.8	25.2	1	33.2	45.2	5
1.5KE27A	1.5KE27CA	23.1	25.7	28.4	1	37.5	40.0	5
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1	41.4	36.2	5
1.5KE33A	1.5KE33CA	28.2	31.4	34.7	1	45.7	32.8	5
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1	49.9	30.1	5
1.5KE39A	1.5KE39CA	33.3	37.1	41.0	1	53.9	27.8	5
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1	59.3	25.3	5
1.5KE47A	1.5KE47CA	40.2	44.7	49.4	1	64.8	23.1	5
1.5KE51A	1.5KE51CA	43.6	48.5	53.6	1	70.1	21.4	5
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1	77.0	19.5	5
1.5KE62A	1.5KE62CA	53.0	58.9	65.1	1	85.0	17.6	5
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1	92.0	16.3	5
1.5KE75A	1.5KE75CA	64.1	71.3	78.8	1	104.0	14.6	5
1.5KE82A	1.5KE82CA	70.1	77.9	86.1	1	113.0	13.3	5
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1	125.0	12.0	5
1.5KE100A	1.5KE100CA	85.5	95.0	105.0	1	137.0	10.9	5

# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leaded Type 1500 W

■ Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage $V_{BR}$ @ $I_T$		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{PP}$	Maximum Peak Pulse Current	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$
		$V_{RWM}$ ( V )	Min( V )	Max( V )	$I_T$ ( mA )	$V_C$ ( V )	$I_{PP}$ (A)	$I_R$ ( $\mu$ A)
1.5KE110A	1.5KE110CA	94.0	105.0	116.0	1	152.0	9.9	5
1.5KE120A	1.5KE120CA	102.0	114.0	126.0	1	165.0	9.1	5
1.5KE130A	1.5KE130CA	111.0	124.0	137.0	1	179.0	8.4	5
1.5KE150A	1.5KE150CA	128.0	143.0	158.0	1	207.0	7.2	5
1.5KE160A	1.5KE160CA	136.0	152.0	168.0	1	219.0	6.8	5
1.5KE170A	1.5KE170CA	145.0	162.0	179.0	1	234.0	6.4	5
1.5KE180A	1.5KE180CA	154.0	171.0	189.0	1	246.0	6.1	5
1.5KE200A	1.5KE200CA	171.0	190.0	210.0	1	274.0	5.5	5
1.5KE220A	1.5KE220CA	185.0	209.0	231.0	1	328.0	4.6	5
1.5KE250A	1.5KE250CA	214.0	237.0	263.0	1	344.0	4.4	5
1.5KE300A	1.5KE300CA	256.0	285.0	315.0	1	414.0	3.6	5
1.5KE350A	1.5KE350CA	300.0	333.0	368.0	1	482.0	3.1	5
1.5KE400A	1.5KE400CA	342.0	380.0	420.0	1	548.0	2.7	5
1.5KE440A	1.5KE440CA	376.0	418.0	462.0	1	602.0	2.5	5
1.5KE480A	1.5KE480CA	408.0	456.0	504.0	1	658.0	2.28	5
1.5KE500A	1.5KE500CA	427.5	475.0	525.0	1	690.0	2.17	5
1.5KE510A	1.5KE510CA	434.0	485.0	535.0	1	698.0	2.15	5
1.5KE520A	1.5KE520CA	444.6	494.0	546.0	1	717.6	2.09	5
1.5KE540A	1.5KE540CA	459.0	513.0	567.0	1	740.0	2.03	5
1.5KE550A	1.5KE550CA	470.3	522.5	577.5	1	759.0	1.98	5
1.5KE600A	1.5KE600CA	513.0	570.0	630.0	1	828.0	1.81	5

# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leded Type 1500 W

■ Rate and Characteristic Curve ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

图1: 最大脉冲功率曲线

FIG1: Peak Pulse Power Rating Curve

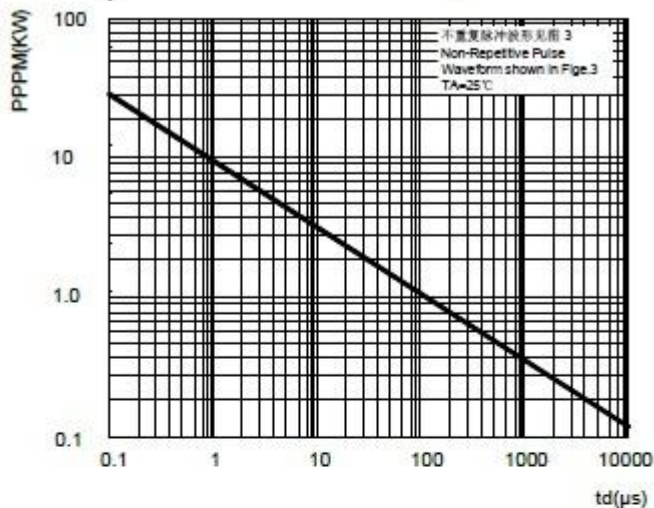


图2: 脉冲功率或电流与结温关系

FIG2: Pulse Power or Current vs. Initial Junction Temperature

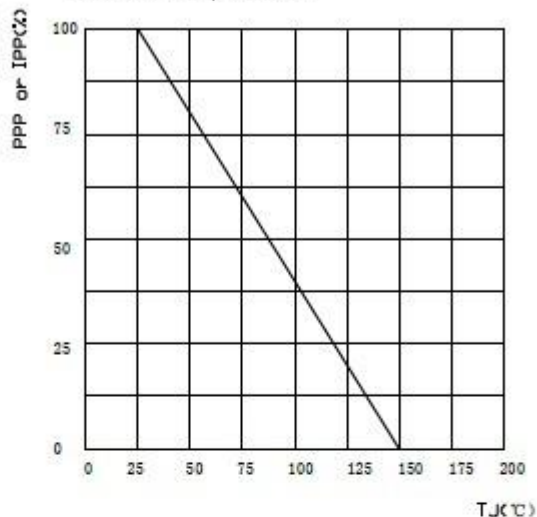


图3: 脉冲波形

FIG3: Pulse Waveform

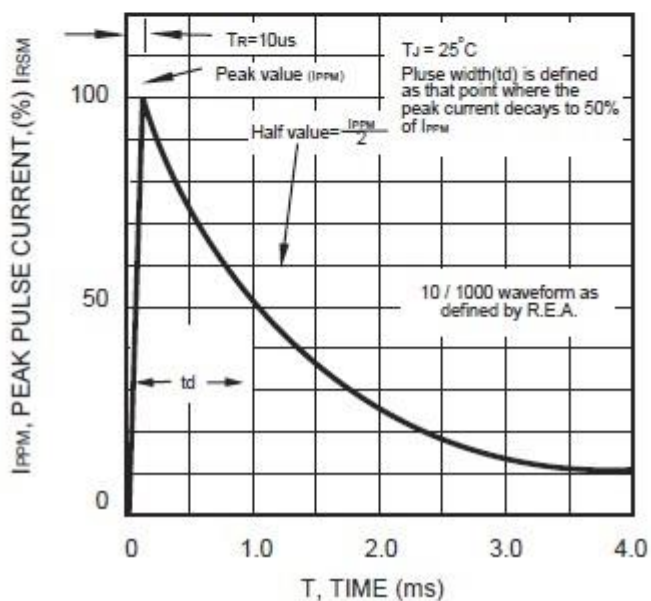
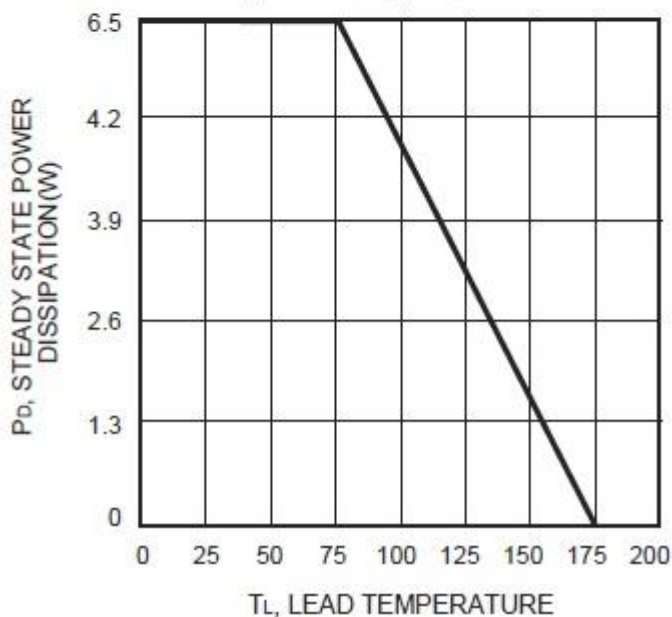


图4: 功率降额曲线

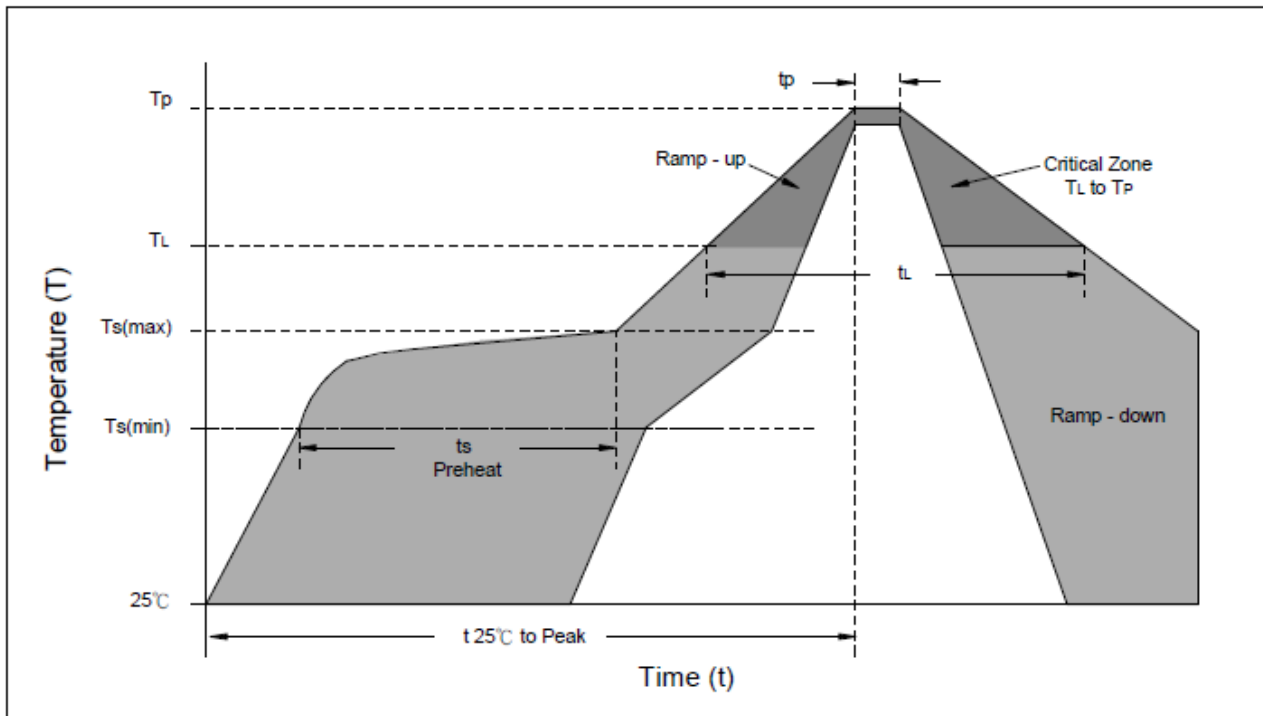
FIG4: Power Derating Curve



# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leaded Type 1500 W

### ■ Soldering Recommendation



Reflow Condition	Lead-free assembly
<b>Preheat</b> -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	150°C 200°C 60 – 180 seconds
<b>Average ramp up rate</b> -Temperature Liquidus (TL) to peak	3°C/second max
<b>Ts(max) to TL</b> -Ramp-up Rate	3°C/second max.
<b>Reflow</b> -Temperature Liquidus (TL) -Time (tL)	217°C 60 – 150 seconds
<b>Peak Temperature (TP)</b>	260°C
<b>Time within 5°C of actual peak Temperature(TP)</b>	20 – 40 seconds
<b>Ramp-down Rate</b>	6°C/second max.
<b>Time 25°C to peak Temperature(TP)</b>	8 minutes max.
<b>Do not exceed</b>	260°C

# Transient Voltage Suppression Diodes: 1.5KE Series

## Axial Leaded Type 1500 W

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### ■ Quantity

Package	Reel Size	Reel
Type	inch	Kpcs
DO-27	13	1.2

### ■ Warehouse Storage Conditions of product

- Storage condition:
  - 1.Storage Temperature:  $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$
  - 2.Relative Humidity:  $\leq 75\%RH$
  - 3.Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.