

# 1.5KE Series Protection Diodes



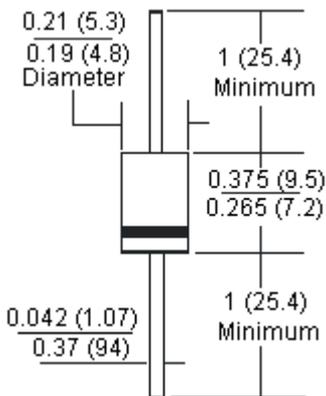
## Transient Voltage Suppressors



### Features:

- Glass passivated chip junction in moulded plastic package
- 1,500 W surge capability at 1 ms
- Low zener impedance
- Excellent clamping capability
- Fast response time : Typically less than 1 ps from 0 volts to BV minimum
- Typical IR less than 1  $\mu$ A above 10 V
- High temperature soldering : 260°C / 10 seconds / .375 inches, (9.5 mm) lead length / 5 lbs. (2.3 kg) tension
- Low clamping voltages
- Wide voltage range
- High transient power dissipation
- No wear-out limitation
- Small physical size

### 1.5KE Series



### Mechanical Data

Case	: JEDEC DO-201AE moulded plastic
Terminals	: Axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Colour band denoted cathode except Bipolar
Mounting Position	: Any
Weight	: 0.045 ounce, 1.2 g

Dimensions : Inches (Millimetres)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Ratings	Symbol	Value	Units
		1.5KE Series	
Peak Power Dissipation at $T_A = 25^\circ\text{C}$ , $T_P = 1$ ms (Note 1)	$P_{PK}$	Minimum 1,500	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 5.8 to 7.6, 7.2 to 9.5 (Note 2)	PD	5	
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	$I_{FSM}$	200	Amperes
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	°C

### Notes

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ\text{C}$  per Fig. 2
2. Mounted on copper Leaf area of 0.79in<sup>2</sup> (20 mm<sup>2</sup>)
3. 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum

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### Rating and Characteristic Curves

#### 1.5KE Series

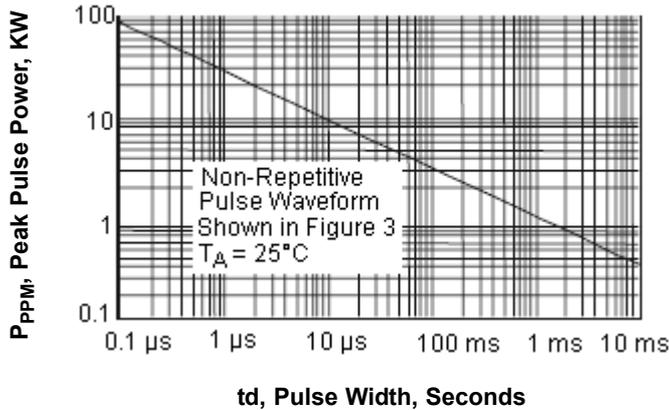


Fig. 1-Peak Pulse Power Rating Curve

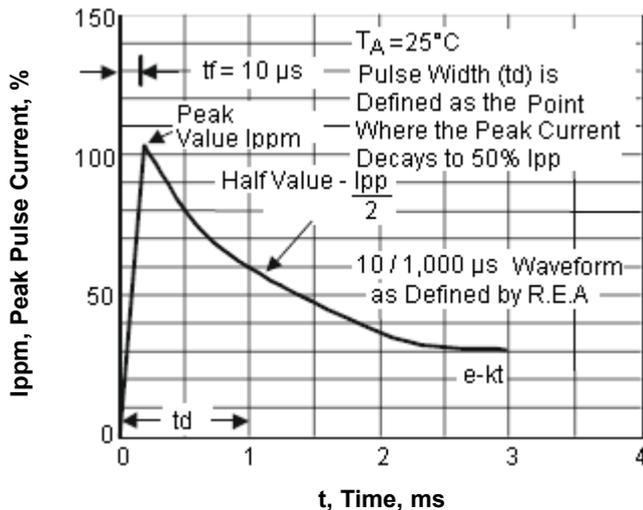


Fig. 3-Pulse Waveform

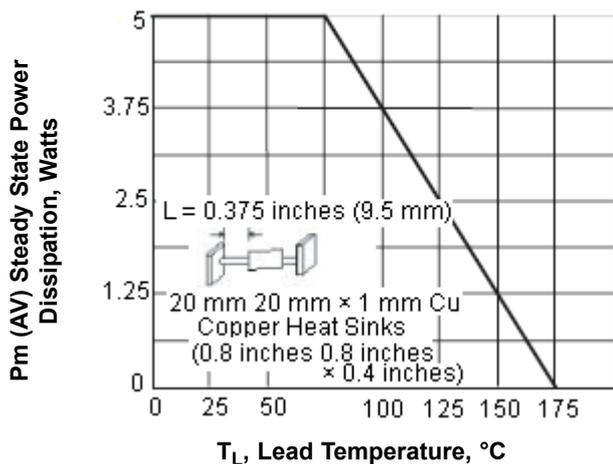


Fig. 5-Steady State Power Derating Curve

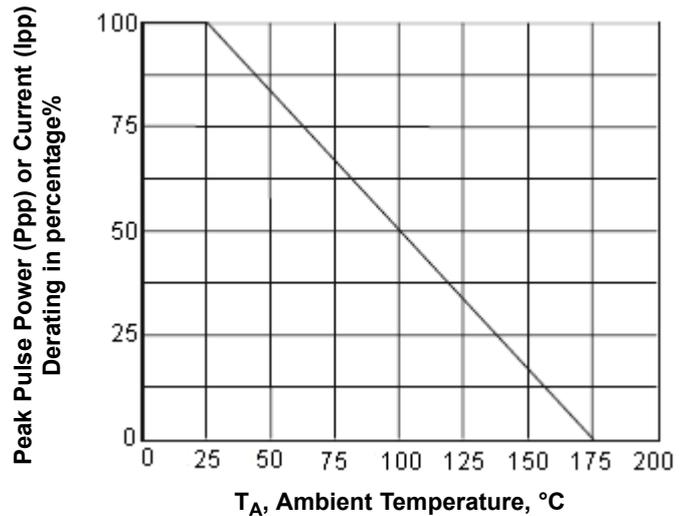


Fig. 2-Pulse Derating Curve

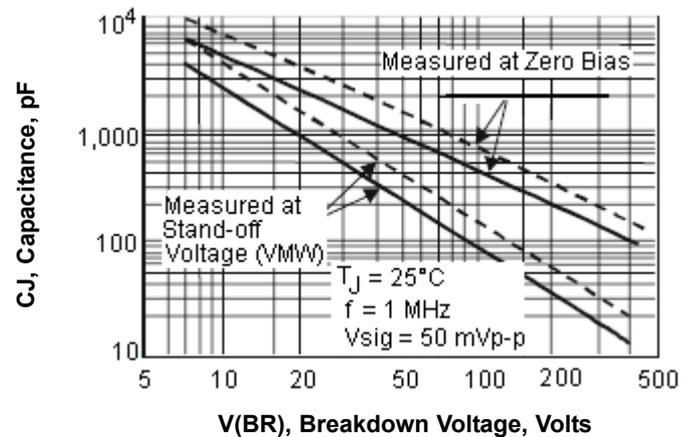


Fig. 4-Typical Junction Capacitance Unidirectional

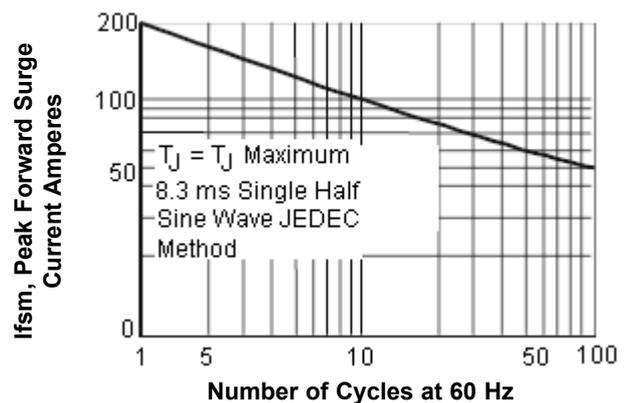


Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional

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## Transient Voltage Suppressors

### Uni-Directional 1,500 Watt Axial Lead TVS

Stand-off Voltage $V_{rm}$ (V)	Breakdown Voltage $V_{br}$ (V) Minimum	Breakdown Voltage $V_{br}$ (V) Maximum	$I_{test}$ (mA)	Clamping Voltage $V_{clamp}$ A	Maximum Peak Pulse Current $I_{pp}$ (A)	$P_{tot}$ at $T_L = 75^\circ C$ (W)	Uni-Directional Part Number
5.5	6.45	7.14	10	10.5	143	5	1.5KE6.8A
9.4	10.5	11.6		15.6	96		1.5KE11A
13.6	15.2	16.8		22.5	67		1.5KE16A
15.3	17.1	18.9		25.2	59.5		1.5KE18A
18.8	20.9	23.1		30.6	49		1.5KE22A
23.1	25.7	28.4		37.5	40		1.5KE27A
25.6	28.5	31.5		41.4	36		1.5KE30A
28.2	31.4	34.7		45.7	33		1.5KE33A
30.8	34.2	37.8		49.9	30		1.5KE36A
40.2	44.7	49.4		64.8	23.2		1.5KE47A
136	152	162		219	6.8		1.5KE160A
342	380	420		548	4		1.5KE400A

### Bi-Directional 1,500 Watt Axial Lead TVS

Stand-off Voltage $V_{rm}$ (V)	Breakdown Voltage $V_{br}$ (V) Minimum	Breakdown Voltage $V_{br}$ (V) Maximum	$I_{test}$ (mA)	Clamping Voltage $V_{clamp}$ A	Maximum Peak Pulse Current $I_{pp}$ (A)	$P_{tot}$ at $T_L = 75^\circ C$ (W)	Bi-Directional Part Number
5.8	6.45	7.14	10	10.5	143	5	1.5KE6.8CA
9.4	10.5	11.6		15.6	96		1.5KE11CA
13.6	15.2	16.8		22.5	67		1.5KE16CA
15.3	17.1	18.9		25.2	59.5		1.5KE18CA
18.8	20.9	23.1		30.6	49		1.5KE22CA
23.1	25.7	28.4		37.5	40		1.5KE27CA
25.6	28.5	31.5		41.4	36		1.5KE30CA
28.2	31.4	34.7		45.7	33		1.5KE33CA
30.8	34.2	37.8		49.9	30		1.5KE36CA
40.2	44.7	49.4		64.8	23.2		1.5KE47CA
136	152	168		219	6.8		1.5KE160CA
342	380	420		548	4		1.5KE400CA

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