

# Unidirectional And Bidirectional Transient Voltage Suppressor



## Features:

- Low leakage
- Uni and Bi-Directional unit
- Excellent clamping capability
- Plastic material has UL recognition 94V-0
- Fast response time

## Mechanical Data:

Case	: Molded Plastic
Polarity	: Uni-Directional -type number and cathode band Bi-Directional-type number only
Weight	: 1.2 grams
Reverse Voltage	: 6.8 to 400 Volts
Power Dissipation	: 1,500 Watts

## Maximum Ratings and Electrical Characteristics:

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%

Characteristics	Symbol	Value	Unit
Peak Power Dissipation at $T_A = 25^\circ\text{C}$ TP = 1ms (Note 1)	$P_{PK}$	Min. 1,500	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	$I_{FSM}$	200	Amps
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 0.375"(9.5mm), See Fig. 4	$P_{M(AV)}$	5	Watts
Max. Instantaneous Forward Voltage at 25A for Uni-Directional Devices only (Note 2)	$V_F$	See Note 3	Volts
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +175	$^\circ\text{C}$

### Notes:

1. Non-repetitive current pulse, per Fig. 5 and derated above  $T_A = 25^\circ\text{C}$  per Fig. 1.
2. 8.3ms single half-wave duty cycle = 4 pulses per minutes maximum (uni-directional units only).
3.  $V_F = 3.5\text{V}$  on 1.5KE6.8 thru 1.5KE200A devices and  $V_F = 5\text{V}$  on 1.5KE1100 thru 1.5KE400A devices.

Part Number		Reverse Standoff Voltage	Breakdown Voltage BV Volts@It			Max. Reverse Leakage @ VR	Max. Clamping Voltage @ Ipp	Max. Peak Pulse Current	Max. Voltage Temp. Variation of Bv
(UNI)	(BI)	VR(V)	Min.(V)	Max.(V)	It(mA)	IR(μA)	Vc(V)	Ipp(A)	mV/°C
1.5KE180A		154	171	189	1	5	246	6.1	0.108
1.5KE200A		171	190	210	1	5	274	5.5	0.108
	1.5KE250CA	214	237	263	1	5	344.4	5	0.11

**Notes:** Suffix 'C' denotes bidirectional device . Suffix 'A' denotes 5% tolerance device. No suffix denotes 10% tolerance device

1. For bidirectional devices having VR of 10Volts and under ,the IR limit is doubled

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## Ratings and Characteristic Curves

FIG.1-PULSE DERATING CURVE

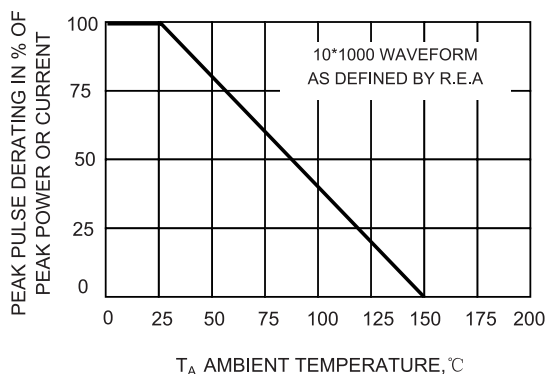


FIG.2-TYPICAL JUNCTION CAPACITANCE

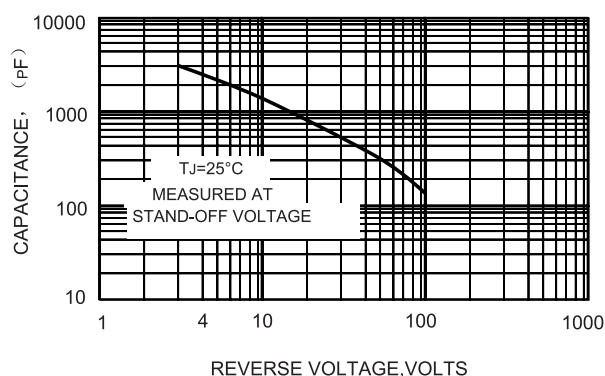


FIG.3-PULSE RATING CURVE

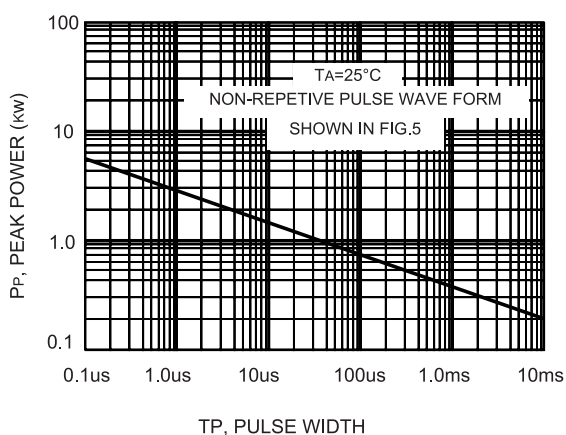


FIG.4-STEADY STATE POWER DERATING CURVE

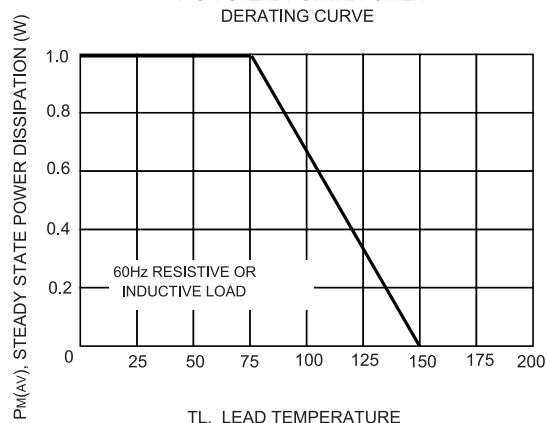
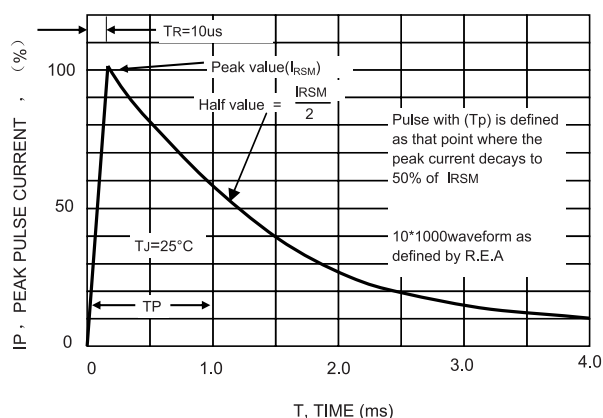


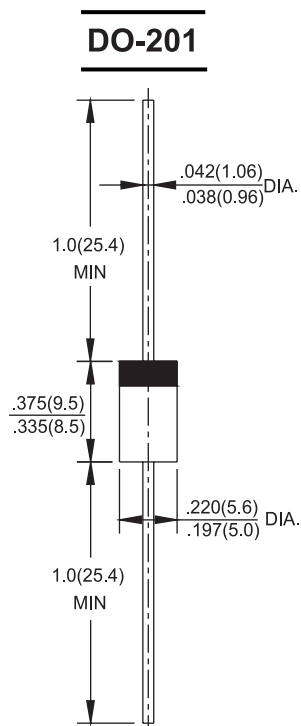
FIG.5-PULSE WAVEFORM



# Unidirectional And Bidirectional Transient Voltage Suppressor



## Dimensions:



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
1500W, Diode 250V Bidirectional	1.5KE250CA
1500W, Diode 200V Unidirectional	1.5KE200A
1500W, Diode 180V Unidirectional	1.5KE180A

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