

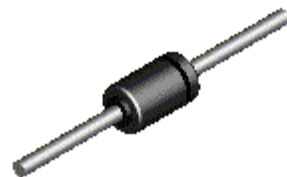


**Discrete POWER & Signal  
Technologies**

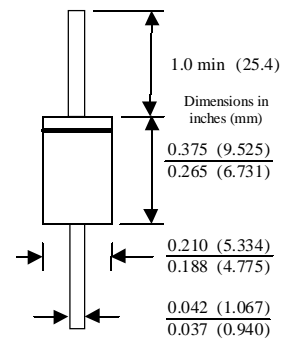
## 1.5KE6.8(C)A - 1.5KE440(C)A

### Features

- Glass passivated junction.
- 1500W Peak Pulse Power capability at 1.0 ms.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time; typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0 ns for bidirectional.
- Typical  $I_R$  less than 1.0  $\mu A$  above 10V.



**DO-201AE**  
COLOR BAND DENOTES CATHODE



### DEVICES FOR BIPOLAR APPLICATIONS

- Bidirectional types use CA suffix.
- Electrical Characteristics apply in both directions.

## 1500 Watt Transient Voltage Suppressors

### Absolute Maximum Ratings\*

$T_A = 25^\circ C$  unless otherwise noted

Symbol	Parameter	Value	Units
$P_{PPM}$	Peak Pulse Power Dissipation at $T_A = 25^\circ C$ , $T_P=1ms$	minimum 1500	W
$I_{PPM}$	Peak Pulse Current	see table	A
$P_D$	Steady State Power Dissipation .375 " lead length @ $T_A = 75^\circ C$	5.0	W
$i_{f(surge)}$	Peak Forward Surge Current superimposed on rated load (JEDEC method) (Note 1)	200	A
$T_{stg}$	Storage Temperature Range	-65 to +175	$^\circ C$
$T_J$	Operating Junction Temperature	-65 to +175	$^\circ C$

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**Note 1:** Measured on 8.3 ms single half-sine wave; Duty cycle = 4 pulses per minute maximum.

1.5KE6.8(C)A - 1.5KE440(C)A

# Transient Voltage Suppressors

(continued)

## Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Uni-directional Bi-directional (C) Device	Reverse Stand-off Voltage V <sub>RWM</sub> (V)	Breakdown Voltage V <sub>BR</sub> (V)		Test Current I <sub>T</sub> (mA)	Max Clamping Voltage @ IPPM V <sub>C</sub> (V)	Max Peak Pulse Surge Current I <sub>PPM</sub> (A)	Max Reverse Leakage V <sub>RWM</sub> I <sub>R</sub> (uA)*
1.5KE6.8(C)A	5.80	6.45	7.14	10	10.5	143	1000
1.5KE7.5(C)A	6.40	7.13	7.88	10	11.3	133	500
1.5KE8.2(C)A	7.02	7.79	8.61	10	12.1	124	200
1.5KE9.1(C)A	7.78	8.65	9.55	1	13.4	112	50
1.5KE10(C)A	8.55	9.50	10.5	1	14.5	103	10
1.5KE11(C)A	9.40	10.5	11.6	1	15.6	96.2	5
1.5KE12(C)A	10.2	11.4	12.6	1	16.7	90.0	5
1.5KE13(C)A	11.1	12.4	13.7	1	18.2	82.0	5
1.5KE15(C)A	12.8	14.3	15.8	1	21.2	71.0	5
1.5KE16(C)A	13.6	15.2	16.8	1	22.5	67.0	5
1.5KE18(C)A	15.3	17.1	18.9	1	26.2	59.5	5
1.5KE20(C)A	17.1	19.0	21.0	1	27.7	54.2	5
1.5KE22(C)A	18.8	20.9	23.1	1	30.6	49.0	5
1.5KE24(C)A	20.5	22.8	25.2	1	33.2	45.2	5
1.5KE27(C)A	23.1	25.7	28.4	1	37.5	40.0	5
1.5KE30(C)A	25.6	28.5	31.5	1	41.4	36.2	5
1.5KE33(C)A	28.2	31.4	34.7	1	45.7	33.0	5
1.5KE36(C)A	30.8	34.2	37.8	1	49.9	30.1	5
1.5KE39(C)A	33.3	37.1	41.0	1	53.9	28.0	5
1.5KE43(C)A	36.8	40.9	45.2	1	59.3	25.3	5
1.5KE47(C)A	40.2	44.7	49.4	1	64.8	23.2	5
1.5KE51(C)A	43.6	48.5	53.6	1	70.1	21.4	5
1.5KE56(C)A	47.8	53.2	58.8	1	77.0	19.5	5
1.5KE62(C)A	53.0	58.9	65.1	1	85.0	17.7	5
1.5KE68(C)A	58.1	64.6	71.4	1	92.0	16.3	5
1.5KE75(C)A	64.1	71.3	78.8	1	104.0	14.6	5
1.5KE82(C)A	70.1	77.9	86.1	1	113.0	13.3	5
1.5KE91(C)A	77.8	86.5	95.5	1	125.0	12.0	5
1.5KE100(C)A	85.5	95.0	105.0	1	137.0	11.0	5
1.5KE110(C)A	94.0	106.0	116.0	1	152.0	9.9	5
1.5KE120(C)A	102.0	114.0	126.0	1	165.0	9.1	5
1.5KE130(C)A	111.0	124.0	137.0	1	179.0	8.4	5
1.5KE150(C)A	128.0	143.0	158.0	1	207.0	7.2	5
1.5KE160(C)A	136.0	152.0	168.0	1	219.0	6.8	5
1.5KE170(C)A	145.0	162.0	179.0	1	234.0	6.4	5
1.5KE180(C)A	154.0	171.0	189.0	1	246.0	6.1	5
1.5KE200(C)A	171.0	190.0	210.0	1	274.0	5.5	5
1.5KE220(C)A	185.0	209.0	231.0	1	328.0	4.6	5
1.5KE250(C)A	214.0	237.0	263.0	1	344.0	4.5	5
1.5KE300(C)A	256.0	285.0	315.0	1	414.0	3.8	5
1.5KE350(C)A	300.0	333.0	368.0	1	482.0	3.2	5
1.5KE400(C)A	342.0	380.0	420.0	1	548.0	2.8	5
1.5KE440(C)A	376.0	418.0	462.0	1	602.0	2.6	5

\* For bidirectional parts with V<sub>RWM</sub> < 10V, the I<sub>R</sub> max limit is doubled.

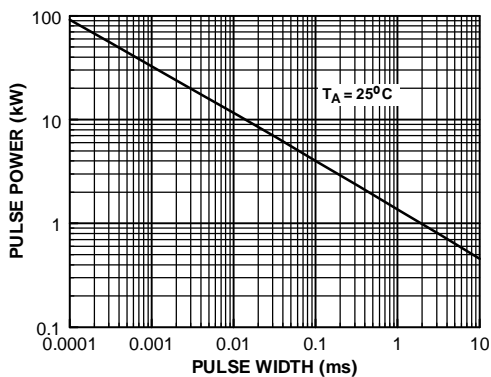
1.5KE6.8(C)A - 1.5KE440(C)A

# Transient Voltage Suppressors (continued)

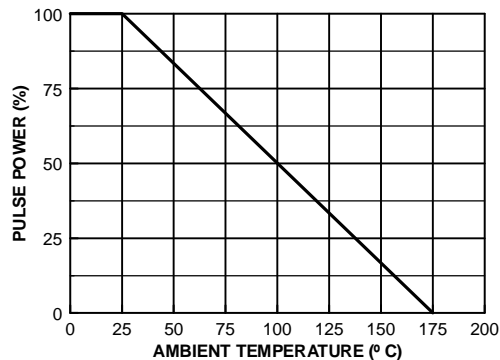
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## Typical Characteristics

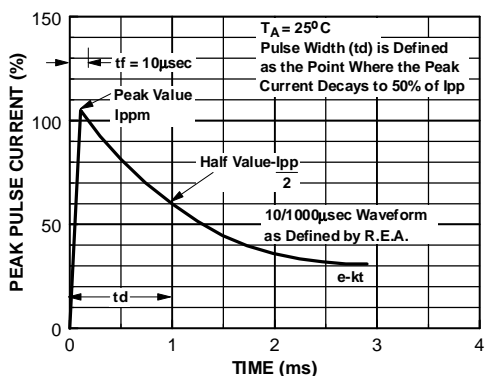
Peak Pulse Power Rating Curve



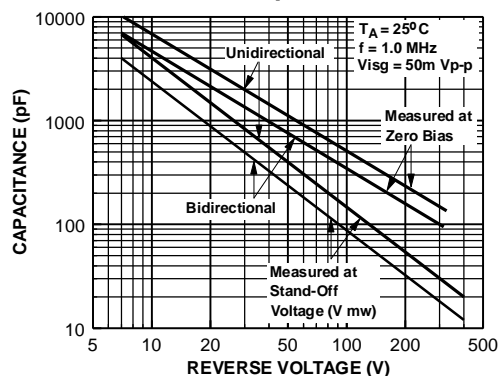
Pulse Derating Curve



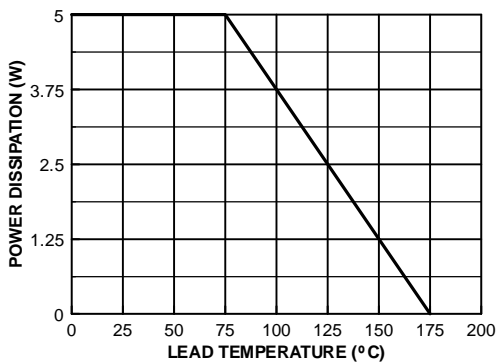
Pulse Waveform



Junction Capacitance



Steady State Power Derating Curve



Non-Repetitive Surge Current

