

1500W Surface Mount Transient Voltage Suppressor

(Pb) Lead(Pb)-Free

Features:

- * Plastic package
- * Glass passivated chip junction in DO-201 package
- * 1500W surge capability at 10/1000 μ s wave form
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- * Typical IR less than 1 μ A above 10V
- * High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension

Mechanical Data:

- * Case: JEDEC DO-201 Molded plastic
- * Terminal: Solderable per MIL-STD-750, Method 2026
- * Polarity: Color band denotes cathode except Bipolar
- * Mounting Position: Any
- * Weight: 0.045 ounce, 1.2 grams

DEVICES FOR BIPOLAR APPLICATION:

For Bidirectional use C or CA Suffix for types 1.5KE6.8 thru types 1.5KE550 (e.g. 1.5KE6.8C, 1.5KE550CA) Electrical characteristics apply in both directions

MAXIMUM RATINGS AND CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless otherwise specified)

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_p = 1\text{ms}$ (Note 1)	P_{PPM}	1500(Min)	W
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$, Lead lengths .375", (9.5mm) (Note 2)	$P_{M(AV)}$	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3)	I_{FSM}	200	A
Operating junction Temperature Range	T_J	+175	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$

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 Pad area of 1.6 x 1.6" (40x40mm) per Fig.5.
3. 8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

VOLTAGE

6.8 to 550 Volts

Peak Pulse Power

1500 Watt



DO-201

1.5 KE Series



1.5KE PART NUMBER		REVERSE STAND- OFF VOLTAGE $V_{RWM}(V)$	BREAKDOWN VOLTAGE $V_{BR}(V)$ MIN.@ I_T	BREAKDOWN VOLTAGE $V_{BR}(V)$ MAX.@ I_T	TEST CURRENT I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{pp} $V_c(V)$	PEAK PULSE CURRENT I_{pp} (A)	REVERSE LEAKAGE @ V_{RWM} $I_R(\mu A)$
UNI- POLAR	BI-POLAR							
1.5KE6.8A	1.5KE6.8CA	5.80	6.45	7.14	10	10.5	144.8	1000
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10	11.3	134.5	500
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10	12.1	125.6	200
1.5KE9.1A	1.5KE9.1CA	7.78	8.65	9.50	1	13.4	113.4	50
1.5KE10A	1.5KE10CA	8.55	9.50	10.50	1	14.5	104.8	10
1.5KE11A	1.5KE11CA	9.40	10.50	11.60	1	15.6	97.4	5
1.5KE12A	1.5KE12CA	10.20	11.40	12.60	1	16.7	91.0	5
1.5KE13A	1.5KE13CA	11.10	12.40	13.70	1	18.2	83.5	5
1.5KE15A	1.5KE15CA	12.80	14.30	15.80	1	21.2	71.7	5
1.5KE16A	1.5KE16CA	13.60	15.20	16.80	1	22.5	67.6	5
1.5KE18A	1.5KE18CA	15.30	17.10	18.90	1	25.2	60.3	5
1.5KE20A	1.5KE20CA	17.10	19.00	21.00	1	27.7	54.9	5
1.5KE22A	1.5KE22CA	18.80	20.90	23.10	1	30.6	49.7	5
1.5KE24A	1.5KE24CA	20.50	22.80	25.20	1	33.2	45.8	5
1.5KE27A	1.5KE27CA	23.10	25.70	28.40	1	37.5	40.5	5
1.5KE30A	1.5KE30CA	25.60	28.50	31.50	1	41.4	36.7	5
1.5KE33A	1.5KE33CA	28.20	31.40	34.70	1	45.7	33.3	5
1.5KE36A	1.5KE36CA	30.80	34.20	37.80	1	49.9	30.5	5
1.5KE39A	1.5KE39CA	33.30	37.10	41.00	1	53.9	28.2	5
1.5KE43A	1.5KE43CA	36.80	40.90	45.20	1	59.3	25.6	5
1.5KE47A	1.5KE47CA	40.20	44.70	49.40	1	64.8	23.5	5
1.5KE51A	1.5KE51CA	43.60	48.50	53.60	1	70.1	21.7	5
1.5KE56A	1.5KE56CA	47.80	53.20	58.80	1	77.0	19.7	5
1.5KE62A	1.5KE62CA	53.00	58.90	65.10	1	85.0	17.9	5
1.5KE68A	1.5KE68CA	58.10	64.60	71.40	1	92.0	16.5	5
1.5KE75A	1.5KE75CA	64.10	71.30	78.80	1	103.0	14.8	5
1.5KE82A	1.5KE82CA	70.10	77.90	86.10	1	113.0	13.5	5
1.5KE91A	1.5KE91CA	77.80	86.50	95.50	1	125.0	12.2	5
1.5KE100A	1.5KE100CA	85.50	95.00	105.00	1	137.0	11.1	5
1.5KE110A	1.5KE110CA	94.00	105.00	116.00	1	152.0	10.0	5
1.5KE120A	1.5KE120CA	102.00	114.00	126.00	1	165.0	9.2	5
1.5KE130A	1.5KE130CA	111.00	124.00	137.00	1	179.0	8.5	5
1.5KE150A	1.5KE150CA	128.00	143.00	158.00	1	207.0	7.3	5
1.5KE160A	1.5KE160CA	136.00	152.00	168.00	1	219.0	6.9	5
1.5KE170A	1.5KE170CA	145.00	162.00	179.00	1	234.0	6.5	5
1.5KE180A	1.5KE180CA	154.00	171.00	189.00	1	246.0	6.2	5
1.5KE200A	1.5KE200CA	171.00	190.00	210.00	1	274.0	5.5	5
1.5KE220A	1.5KE220CA	185.00	209.00	231.00	1	328.0	4.6	5
1.5KE250A	1.5KE250CA	214.00	237.00	263.00	1	344.0	4.4	5
1.5KE300A	1.5KE300CA	256.00	285.00	315.00	1	414.0	3.7	5
1.5KE350A	1.5KE350CA	300.00	332.00	368.00	1	482.0	3.2	5
1.5KE400A	1.5KE400CA	342.00	380.00	420.00	1	548.0	2.8	5
1.5KE440A	1.5KE440CA	376.00	418.00	462.00	1	602.0	2.5	5
1.5KE480A	1.5KE480CA	408.00	456.00	504.00	1	658.0	2.3	5
1.5KE510A	1.5KE510CA	434.00	485.00	535.00	1	698.0	2.1	5
1.5KE530A	1.5KE530CA	477.00	503.50	556.50	1	725.0	2.1	5
1.5KE540A	1.5KE540CA	459.00	513.00	567.00	1	740.0	2.0	5
1.5KE550A	1.5KE550CA	495.00	522.50	577.50	1	760.0	2.0	5

For bidirectional type having V_{RWM} of 10 volts and less, the IR limit is double.

For parts without A , the VBR is $\pm 10\%$

RATINGS AND CHARACTERISTIC CURVES

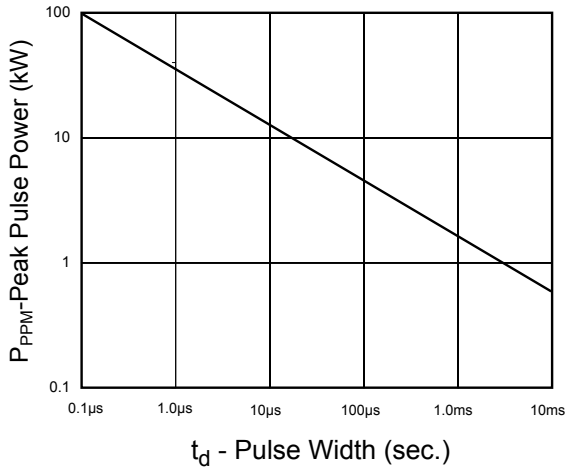


Fig. 1 - Peak Pulse Power Rating Curve

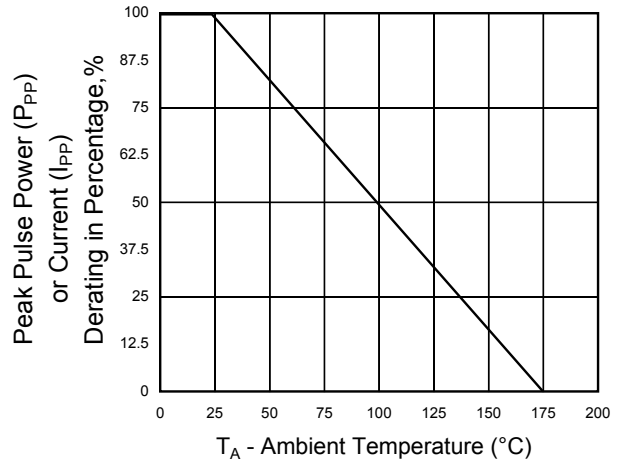


Fig.2 - Pulse Derating Curve

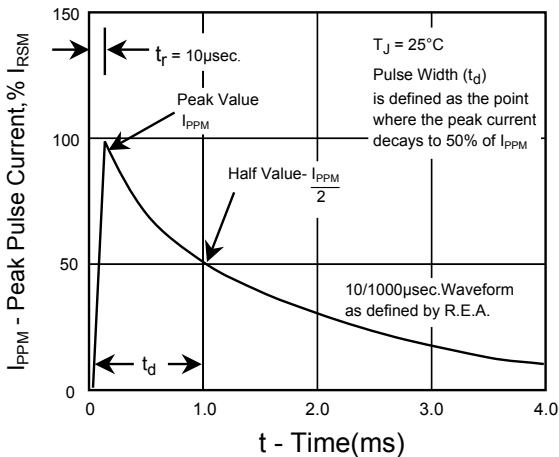


Fig.3 - Pulse Waveform

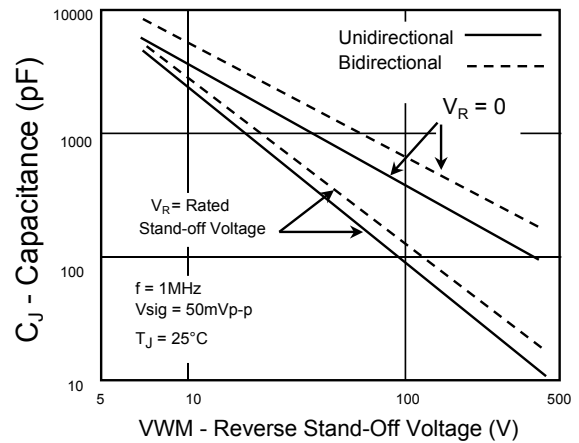


Fig. 4 - Typical Junction Capacitance

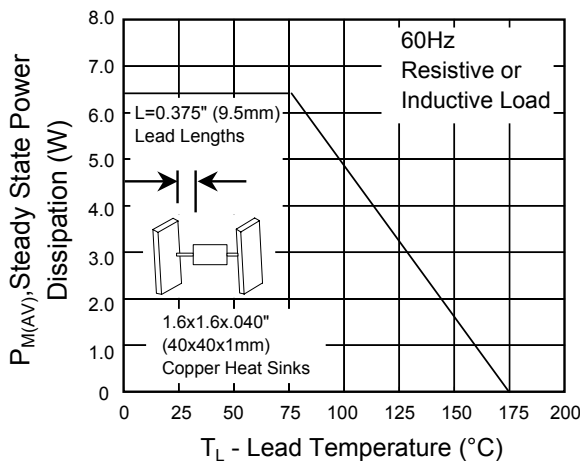


Fig. 5 - Steady State Power Derating Curve

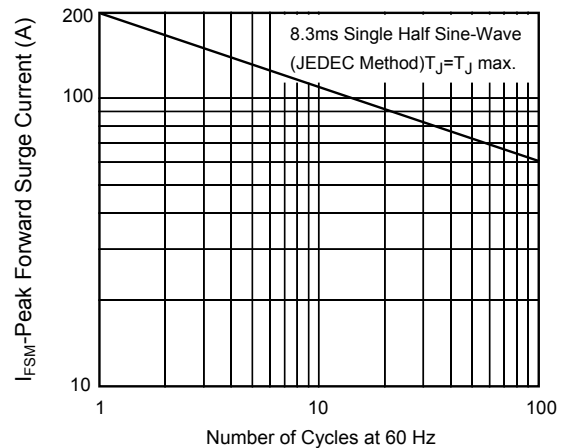
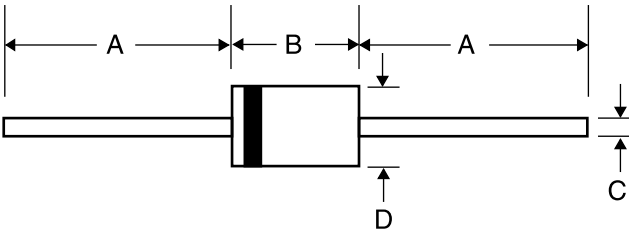


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

DO-201 Outline Dimension

Unit:mm

Axial Device (Through-Hole)



Dim	A		B		C		D	
	Min	Max	Min	Max	Min	Max	Min	Max
DO-201	25.40	-	7.20	9.50	0.96	1.07	4.80	5.30