

# 1.5KE SERIES

**V<sub>BR</sub> : 6.8 - 440 Volts**  
**P<sub>PK</sub> : 1500 Watts**

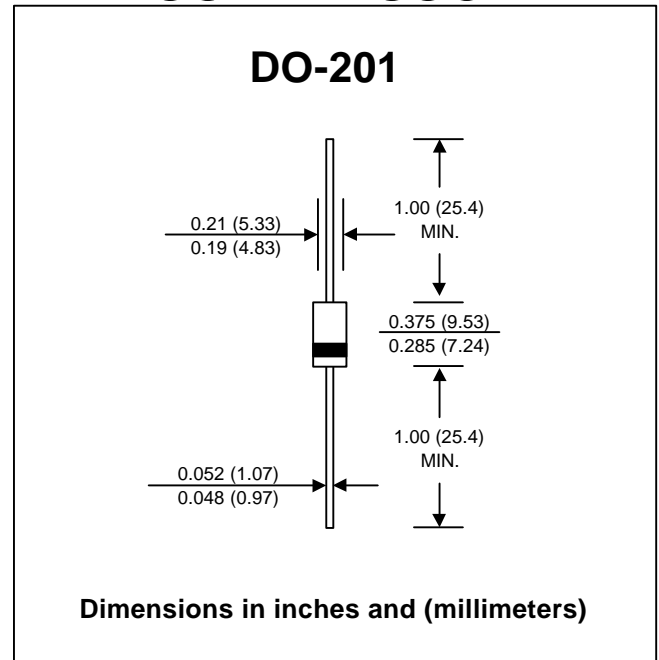
## FEATURES :

- \* 1500W surge capability at 1ms
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time : typically less than 1.0 ps from 0 volt to V<sub>BR(min.)</sub>
- \* Typical I<sub>R</sub> less than 1μA above 10V

## MECHANICAL DATA

- \* Case : DO-201 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity : Color band denotes cathode end except Bipolar.
- \* Mounting position : Any
- \* Weight : 0.93 grams

# TRANSIENT VOLTAGE SUPPRESSOR



## MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	PPK	Minimum 1500	W
Steady State Power Dissipation at TL = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P <sub>D</sub>	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	I <sub>FSM</sub>	200	A
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 175	°C

## Notes :

- (1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on Copper Leaf area of 1.57 in<sup>2</sup> (40mm<sup>2</sup>).
- (3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.



## ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

Type No.		Breakdown Voltage @ It ( Note 1 )			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
Uni-directional	Bi-directional	VBR (V)		It	VRWM	IR	IRSM	VRSM	of VBR (% /°C)
		Min.	Max.	(mA)	(V)	(µA)	(A)	(V)	
1.5KE6.8A	1.5KE6.8CA	6.45	7.14	10	5.80	2000	143	10.5	0.057
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	10	6.40	1000	132	11.3	0.061
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	10	7.02	400	124	12.1	0.065
1.5KE9.1A	1.5KE9.1CA	8.65	9.55	1.0	7.78	100	112	13.4	0.068
1.5KE10A	1.5KE10CA	9.50	10.5	1.0	8.55	10	103	14.5	0.073
1.5KE11A	1.5KE11CA	10.5	11.6	1.0	9.40	10	96.0	15.6	0.075
1.5KE12A	1.5KE12CA	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1.5KE13A	1.5KE13CA	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1.5KE15A	1.5KE15CA	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1.5KE16A	1.5KE16CA	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1.5KE18A	1.5KE18CA	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088
1.5KE20A	1.5KE20CA	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1.5KE22A	1.5KE22CA	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1.5KE24A	1.5KE24CA	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1.5KE27A	1.5KE27CA	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1.5KE30A	1.5KE30CA	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1.5KE33A	1.5KE33CA	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1.5KE36A	1.5KE36CA	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1.5KE39A	1.5KE39CA	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1.5KE43A	1.5KE43CA	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1.5KE47A	1.5KE47CA	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101
1.5KE51A	1.5KE51CA	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1.5KE56A	1.5KE56CA	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103
1.5KE62A	1.5KE62CA	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1.5KE68A	1.5KE68CA	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1.5KE75A	1.5KE75CA	71.3	78.8	1.0	64.1	5.0	14.6	103	0.105
1.5KE82A	1.5KE82CA	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
1.5KE91A	1.5KE91CA	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
1.5KE100A	1.5KE100CA	95.0	105	1.0	85.5	5.0	11.0	137	0.106
1.5KE110A	1.5KE110CA	105	116	1.0	94.0	5.0	9.9	152	0.107
1.5KE120A	1.5KE120CA	114	126	1.0	102	5.0	9.1	165	0.107
1.5KE130A	1.5KE130CA	124	137	1.0	111	5.0	8.4	179	0.107
1.5KE150A	1.5KE150CA	143	158	1.0	128	5.0	7.2	207	0.108
1.5KE160A	1.5KE160CA	152	168	1.0	136	5.0	6.8	219	0.108
1.5KE170A	1.5KE170CA	162	179	1.0	145	5.0	6.4	234	0.108
1.5KE180A	1.5KE180CA	171	189	1.0	154	5.0	6.1	246	0.108
1.5KE200A	1.5KE200CA	190	210	1.0	171	5.0	5.5	274	0.108
1.5KE220A	1.5KE220CA	209	231	1.0	185	5.0	4.6	328	0.108
1.5KE250A	1.5KE250CA	237	263	1.0	214	5.0	5.0	344	0.110
1.5KE300A	1.5KE300CA	285	315	1.0	256	5.0	5.0	414	0.110
1.5KE350A	1.5KE350CA	332	368	1.0	300	5.0	4.0	482	0.110
1.5KE400A	1.5KE400CA	380	420	1.0	342	5.0	4.0	548	0.110
1.5KE440A	1.5KE440CA	418	462	1.0	376	5.0	2.50	602	0.110

**Notes:**

- (1) VBR measured after It applied for 300 µs., It = square wave pulse or equivalent.
- (2) VF = 3.5 Vmax., IF = 100 Amps. ( 6.8 Volts thru 91 Volts )  
 VF = 5.0 Vmax., IF = 100 Amps. ( 100 Volts thru 440 Volts ) per 1/2 square or equivalent sine wave.  
 PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.
- (3) "1.5" will be omitted in marking on the diode.

## RATING AND CHARACTERISTIC CURVES ( 1.5KE SERIES )

FIG.1 - PULSE DERATING CURVE

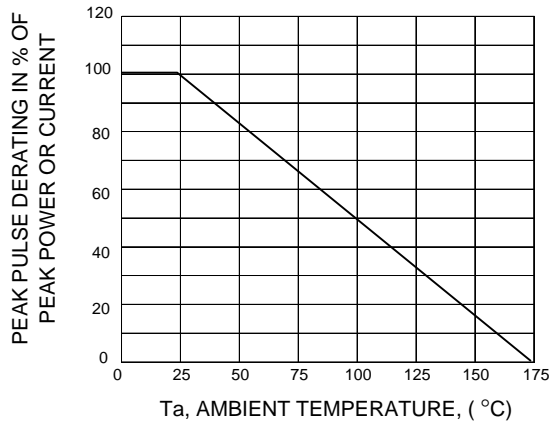


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

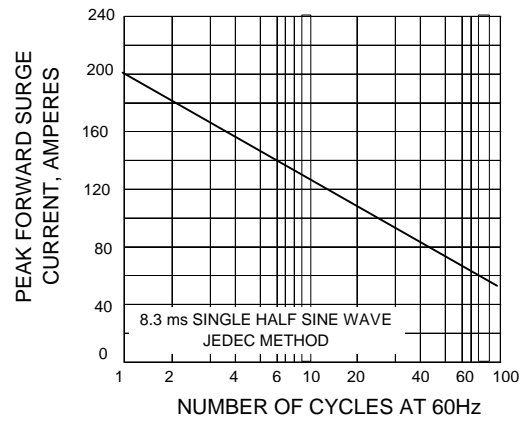


FIG.3 - STEADY STATE POWER DERATING

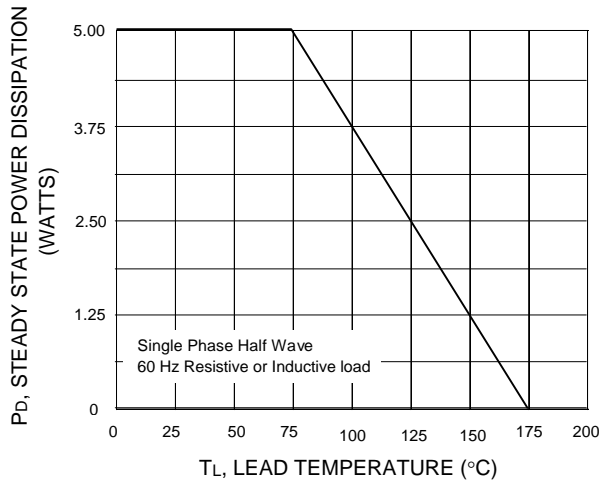


FIG.4 - PULSE RATING CURVE

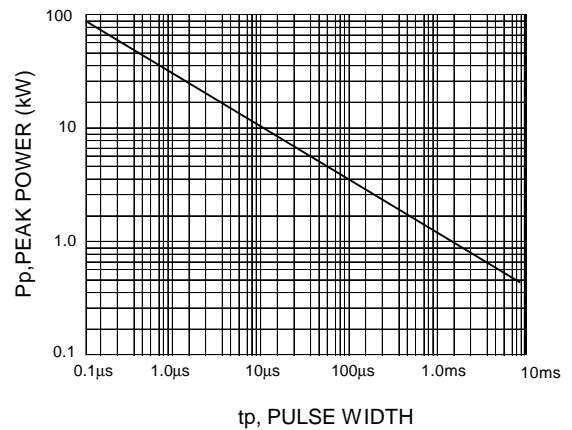


FIG.5 - PULSE WAVEFORM

