

MDE Semiconductor, Inc.

78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

1N6267 to 1N6303 and 1.5KE SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE- 6.8 TO 440 Volts

1500 Watt Peak Power 5.0 Watt Steady State

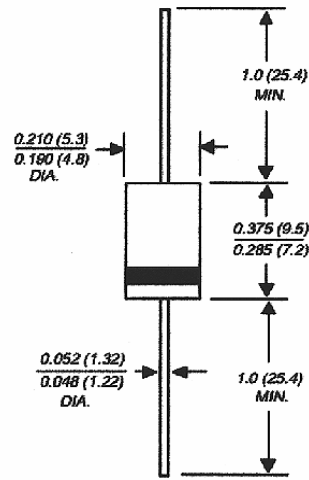
FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94 V-0
- Glass passivated chip junction in Molded Plastic package
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min.
- Typical IR less than 1μA above 10V
- High temperature soldering guaranteed: 250°C/10 seconds/ .375", (9.5mm) lead length, 5lbs., (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-201 Molded plastic
Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bipolar
Mounting Position: Any
Weight: 0.045 ounces, 1.2 grams

DO-201



Dimensions in inches and (millimeters)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5KE6.80 thru types 1.5KE440 (e.g. 1.5KE6.8C, 1.5KE440CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation at TA = 25 °C, TP = 1ms (NOTE 1)	P _{PPM}	Minimum 1500	Watts
Peak Pulse Current of on 10/1000 μs waveform (Note 1)	I _{PPM}	SEE TABLE 1	Amps
Steady State Power Dissipation at TL = 75°C Lead lengths .375", 9.5mm (Note 2)	P _{M(AV)}	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note 3)	I _{FSM}	200	Amps
Maximum instantaneous forward voltage at 100A for unidirectional only(Note 4)	V _F	3.5/5.0	Volts
Operations and Storage Temperature Range	T _J , T _{STG}	-55 +175	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.
4. Vf=3.5V for 1.5KE220A & below; Vf=5.0 for 1.5KE250A & above

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RATING AND CHARACTERISTIC CURVES 1.5KE SERIES

Fig. 1 – Peak Pulse Power Rating Curve

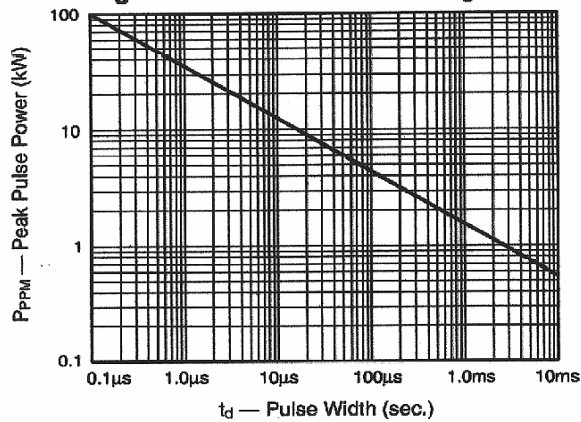


Fig. 2 – Pulse Derating Curve

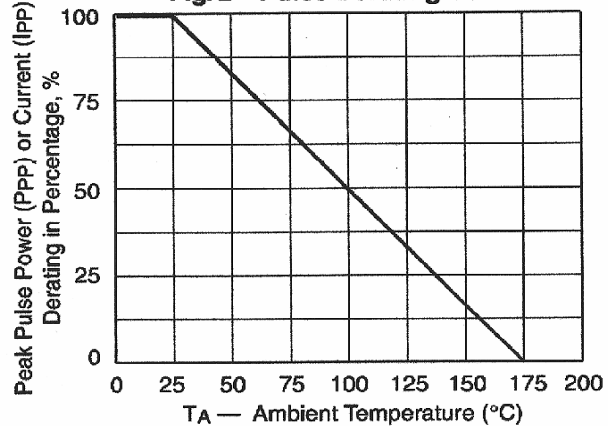


Fig. 3 – Pulse Waveform

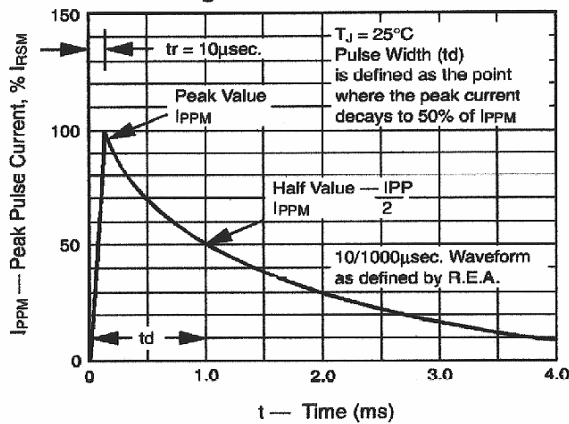


Fig. 4 - Typical Junction Capacitance

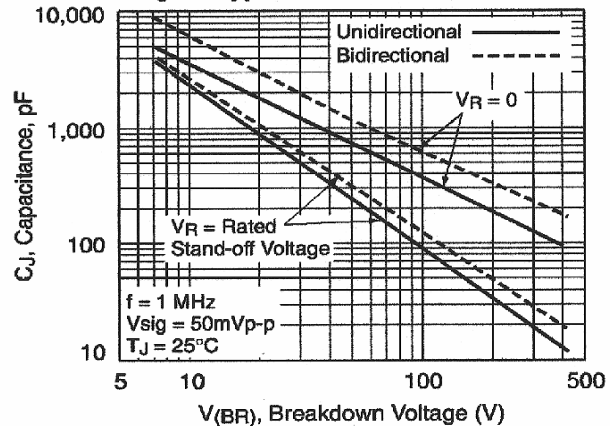


Fig. 5 – Steady State Power Derating Curve

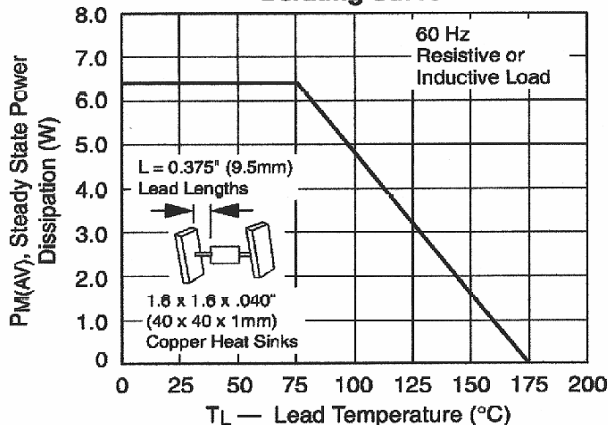
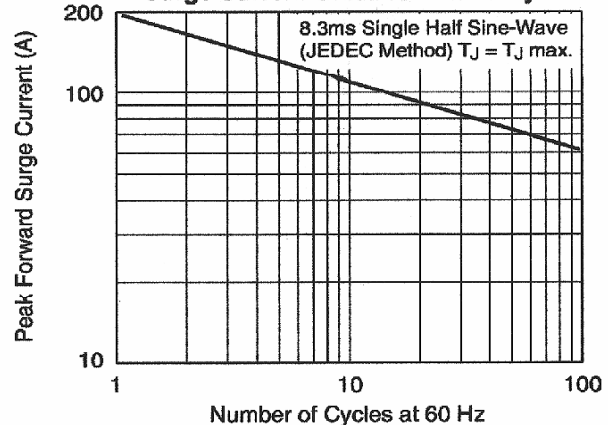


Fig. 6 - Maximum Non-repetitive Peak Forward Surge Current Unidirectional Only



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1500 Watt TVS

JEDEC P/N	MDE P/N 1500 WATT 1.5KE SERIES	STANDOFF VOLTAGE (Vso) Volts	MAX. REVERSE LEAKAGE (Ir)@Vso µA	REVERSE BREAKDOWN VOLTAGE (Vbr) @ It		TEST CURRENT (It) mA	MAX. CLAMPING VOLTAGE (Vcl) @ PEAK PULSE CURRENT (Ipp)		MAX. TEMP. COEFFICIENT OF Vbr (%/°C)
				Min Volts	Max Volts		Vcl Volts	Ipp Amps	
1N6267	1.5KE6.8	5.50		6.12	7.48	10	10.8	139.0	0.057
1N6267A	1.5KE6.8A	5.80		6.45	7.14	10	10.5	143.0	0.057
1N6268	1.5KE7.5	6.05		6.75	8.25	10	11.7	128.0	0.061
1N6268A	1.5KE7.5A	6.40	500	7.13	7.88	10	11.3	132.0	0.061
1N6269	1.5KE8.2	6.63	200	7.38	9.02	10	12.5	120.0	0.065
1N6269A	1.5KE8.2A	7.02	200	7.79	8.61	1	12.1	124.0	0.065
1N6270	1.5KE9.1	7.37	50	8.19	10.00	1	13.8	109.0	0.068
1N6270A	1.5KE9.1A	7.78	50	8.65	9.55	1	13.4	112.0	0.068
1N6271	1.5KE10	8.10	10	9.00	11.00	1	15.0	100.0	0.072
1N6271A	1.5KE10A	8.55	10	9.50	10.50	1	14.5	103.0	0.073
1N6272	1.5KE11	8.92	5.0	9.90	12.10	1	16.2	93.0	0.075
1N6272A	1.5KE11A	9.40	5.0	10.50	11.60	1	15.6	96.0	0.075
1N6273	1.5KE12	9.72	5.0	10.80	13.20	1	17.3	87.0	0.078
1N6273A	1.5KE12A	10.20	5.0	11.40	12.60	1	16.7	90.0	0.078
1N6274	1.5KE13	10.50	5.0	11.70	14.30	1	19.0	79.0	0.061
1N6274A	1.5KE13A	11.10	5.0	12.40	13.70	1	18.2	82.0	0.081
1N6275	1.5KE15	12.10	5.0	13.50	16.50	1	22.0	68.0	0.084
1N6275A	1.5KE15A	12.80	5.0	14.30	15.80	1	21.2	71.0	0.084
1N6276	1.5KE16	12.90	5.0	14.40	17.60	1	23.5	64.0	0.086
1N6276A	1.5KE16A	13.60	5.0	15.20	16.80	1	22.5	67.0	0.086
1N6277	1.5KE18	14.50	5.0	16.20	19.80	1	26.5	56.5	0.088
1N6277A	1.5KE18A	15.30	5.0	17.10	18.90	1	25.2	59.5	0.088
1N6278	1.5KE20	16.20	5.0	18.00	22.00	1	29.1	51.5	0.090
1N6278A	1.5KE20A	17.10	5.0	19.00	21.00	1	27.7	54.0	0.090
1N6279	1.5KE22	17.80	5.0	19.80	24.20	1	31.9	47.0	0.092
1N6279A	1.5KE22A	18.80	5.0	20.90	23.10	1	30.6	49.0	0.092
1N6280	1.5KE24	19.40	5.0	21.60	26.40	1	34.7	43.0	0.091
1N6280A	1.5KE24A	20.50	5.0	22.80	25.20	1	33.2	45.0	0.094
1N6281	1.5KE27	21.80	5.0	24.30	29.70	1	39.1	38.5	0.096
1N6281A	1.5KE27A	23.10	5.0	25.70	28.40	1	37.5	40.0	0.096
1N6282	1.5KE30	24.30	5.0	27.00	33.00	1	43.5	34.5	0.097
1N6282A	1.5KE30A	25.60	5.0	28.50	31.50	1	41.4	36.0	0.097
1N6283	1.5KE33	26.80	5.0	29.70	36.30	1	47.7	31.5	0.098
1N6283A	1.5KE33A	28.20	5.0	31.40	34.70	1	45.7	33.0	0.098
1N6284	1.5KE36	29.10	5.0	32.40	39.60	1	52.0	29.0	0.099
1N6284A	1.5KE36A	30.80	5.0	34.20	37.80	1	49.9	30.0	0.099
1N6285	1.5KE39	31.60	5.0	35.10	42.90	1	56.4	26.5	0.100
1N6285A	1.5KE39A	33.30	5.0	37.10	41.00	1	53.9	28.0	0.100
1N6286	1.5KE43	34.80	5.0	38.70	47.30	1	61.9	24.0	0.101
1N6286A	1.5KE43A	36.80	5.0	40.90	45.20	1	59.3	25.0	0.101
1N6287	1.5KE47	36.10	5.0	42.30	51.70	1	67.8	22.2	0.101
1N6287A	1.5KE47A	40.20	5.0	44.70	49.40	1	64.8	23.2	0.101
1N6288	1.5KE51	41.00	5.0	45.90	56.10	1	73.5	20.4	0.102
1N6288A	1.5KE51A	43.60	5.0	48.50	53.60	1	70.1	21.4	0.102
1N6289	1.5KE56	45.60	5.0	50.40	61.80	1	80.5	18.6	0.103
1N6289A	1.5KE56A	47.80	5.0	53.20	58.80	1	77.0	19.5	0.103
1N6290	1.5KE62	50.20	5.0	55.80	68.20	1	89.0	16.9	0.104
1N6290A	1.5KE62A	53.00	5.0	58.90	65.10	1	85.0	17.7	0.104

Certified RoHS Compliant
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				Min Volts	Max Volts		Vcl Volts	Ipp Amps		
1N6291	1.5KE68	55.10	5.0	61.20	74.80	1	96.0	15.3	0.104	
1N6291A	1.5KE68A	58.10	5.0	64.60	71.40	1	92.0	16.3	0.104	
1N6292	1.5KE75	60.70	5.0	67.50	82.50	1	109.0	13.9	0.105	
1N6292A	1.5KE75A	64.10	5.0	71.30	78.80	1	104.0	14.6	0.105	
1N6293	1.5KE82	66.40	5.0	73.80	90.20	1	118.0	12.7	0.105	
1N6293A	1.5KE82A	70.10	5.0	77.90	86.10	1	113.0	13.3	0.105	
1N6294	1.5KE91	73.70	5.0	81.90	100.00	1	131.0	11.4	0.106	
1N6294A	1.5KE91A	77.80	5.0	86.50	95.50	1	125.0	12.0	0.106	
1N6295	1.5KE100	81.00	5.0	90.00	110.00	1	144.0	10.4	0.106	
1N6295A	1.5KE100A	85.50	5.0	95.00	105.00	1	137.0	11.0	0.106	
1N6296	1.5KE110	89.20	5.0	99.00	121.00	1	158.0	9.5	0.107	
1N6296A	1.5KE110A	94.00	5.0	106.00	116.00	1	152.0	9.9	0.107	
1N6297	1.5KE120	97.20	5.0	108.00	132.00	1	173.0	8.7	0.107	
1N6297A	1.5KE120A	102.00	5.0	114.00	126.00	1	165.0	9.1	0.107	
1N6298	1.5KE130	106.00	5.0	117.00	143.00	1	187.0	8.0	0.107	
1N6298A	1.5KE130A	111.00	5.0	124.00	137.00	1	179.0	8.4	0.107	
1N6299	1.5KE150	121.00	5.0	136.00	165.00	1	215.0	7.0	0.108	
1N6299A	1.5KE150A	128.00	5.0	143.00	158.00	1	207.0	7.2	0.108	
1N6300	1.5KE160	130.00	5.0	144.00	176.00	1	230.0	6.5	0.108	
1N6300A	1.5KE160A	136.00	5.0	152.00	168.00	1	219.0	6.8	0.108	
1N6301	1.5KE170	138.00	5.0	153.00	167.00	1	244.0	6.2	0.108	
1N6301A	1.5KE170A	145.00	5.0	162.00	179.00	1	234.0	6.4	0.108	
1N6302	1.5KE180	146.00	5.0	162.00	198.00	1	256.0	5.8	0.108	
1N6302A	1.5KE180A	154.00	5.0	171.00	189.00	1	246.0	6.1	0.108	
1N6303	1.5KE200	162.00	5.0	180.00	220.00	1	287.0	5.2	0.108	
1N6303A	1.5KE200A	171.00	5.0	190.00	210.00	1	274.0	5.5	0.108	
N/A	1.5KE220	175.00	5.0	196.00	242.00	1	344.0	4.3	0.108	
N/A	1.5KE220A	185.00	5.0	209.00	231.00	1	328.0	4.6	0.108	
N/A	1.5KE250	202.00	5.0	225.00	275.00	1	360.0	5.0	0.110	
N/A	1.5KE250A	214.00	5.0	237.00	263.00	1	344.0	5.0	0.110	
N/A	1.5KE300	243.00	5.0	270.00	330.00	1	430.0	5.0	0.110	
N/A	1.5KE300A	256.00	5.0	285.00	315.00	1	414.0	5.0	0.110	
N/A	1.5KE350	284.00	5.0	315.00	385.00	1	504.0	4.0	0.110	
N/A	1.5KE350A	300.00	5.0	333.00	368.00	1	482.0	4.0	0.110	
N/A	1.5KE400	324.00	5.0	360.00	440.00	1	574.0	4.0	0.110	
N/A	1.5KE400A	342.00	5.0	380.00	420.00	1	548.0	4.0	0.110	
N/A	1.5KE440	356.00	5.0	396.00	484.00	1	598.0	4.0	0.110	
N/A	1.5KE440A	376.00	5.0	418.00	462.00	1	590.0	4.0	0.110	

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