

1.5KE Series



Transient Voltage Suppressor

Working Peak Reverse Voltage: 6.8 to 600 Volts

Power Dissipation: 1500Watts

RoHS Device

Halogen Free

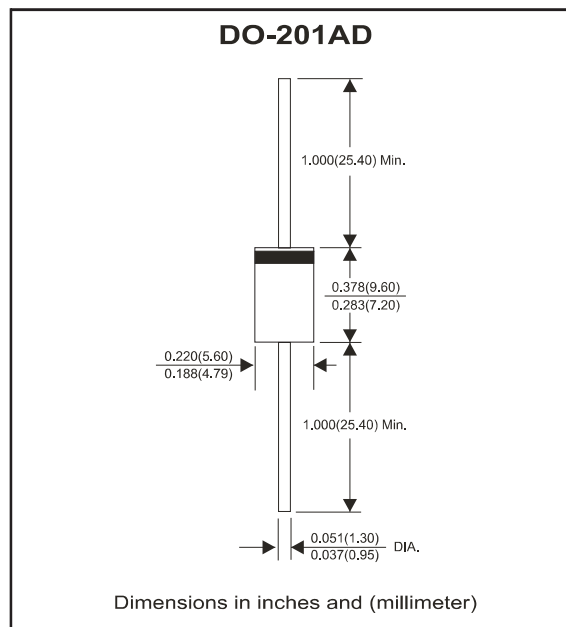


Features

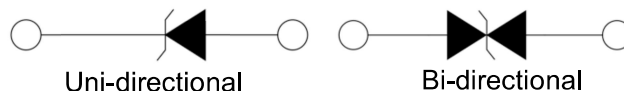
- Glass passivated chip.
- 1500W peak pulse power capability with a 10/1000us waveform, repetitive rate (duty cycle):0.01%
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.

Mechanical Data

- Case: Molded plastic, DO-201AD
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guaranteed.
- Polarity: Color band denotes cathode end except Bipolar.
- Mounting position: Any
- Weight: 1.2 grams(approx.).



Circuit Diagram



Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform (Note 1)	PPp	1500	W
Peak pulse current with a 10/1000μs waveform (Note 1)	IPP	See Next Table	A
Power dissipation on infinite heatsink at TL=75°C	PD	6.5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only (JEDEC method) (Note 2)	IFSM	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only (Note 3)	VF	3.5/5.0	V
Operating junction and storage temperature range	TJ, TSTG	-55 to +150	°C

NTOES:

(1) Non-repetitive current pulse, per fig.5 and derated above TA=25°C per fig.1

(2) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

(3) VF<3.5V for devices of VBR<200V and VF<5.0V for devices of VBR>201V

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Electrical Characteristics (at TA=25°C, unless otherwise specified)

Part No.	Breakdown voltage VBR @ IT			Maximum Reverse Leakage @VRWM IR (uA)	Working Peak Reverse Voltage VRWM (V)	Maximum Reverse Surge Current IPP (A)	Maximum Clamping Voltage @IPP VC (V)	Marking Code	
	Min. (V)	Max. (V)	IT (mA)					UNI	BI
1.5KE6.8(C)A	6.46	7.14	10	1000	5.8	142.86	10.5	1.5KE6.8A	1.5KE6.8CA
1.5KE7.5(C)A	7.13	7.88	10	500	6.4	132.74	11.3	1.5KE7.5A	1.5KE7.5CA
1.5KE8.2(C)A	7.79	8.61	10	200	7.0	123.97	12.1	1.5KE8.2A	1.5KE8.2CA
1.5KE9.1(C)A	8.65	9.56	1.0	50	7.8	111.94	13.4	1.5KE9.1A	1.5KE9.1CA
1.5KE10(C)A	9.50	10.50	1.0	10	8.6	103.45	14.5	1.5KE10A	1.5KE10CA
1.5KE11(C)A	10.45	11.55	1.0	5.0	9.4	96.15	15.6	1.5KE11A	1.5KE11CA
1.5KE12(C)A	11.40	12.60	1.0	5.0	10.2	89.82	16.7	1.5KE12A	1.5KE12CA
1.5KE13(C)A	12.35	13.65	1.0	1.0	11.1	82.42	18.2	1.5KE13A	1.5KE13CA
1.5KE15(C)A	14.25	15.75	1.0	1.0	12.8	70.75	21.2	1.5KE15A	1.5KE15CA
1.5KE16(C)A	15.20	16.80	1.0	1.0	13.6	66.67	22.5	1.5KE16A	1.5KE16CA
1.5KE18(C)A	17.10	18.90	1.0	1.0	15.3	59.52	25.2	1.5KE18A	1.5KE18CA
1.5KE20(C)A	19.00	21.00	1.0	1.0	17.1	54.15	27.7	1.5KE20A	1.5KE20CA
1.5KE22(C)A	20.90	23.10	1.0	1.0	18.8	49.02	30.6	1.5KE22A	1.5KE22CA
1.5KE24(C)A	22.80	25.20	1.0	1.0	20.5	45.18	33.2	1.5KE24A	1.5KE24CA
1.5KE27(C)A	25.65	28.35	1.0	1.0	23.1	40.00	37.5	1.5KE27A	1.5KE27CA
1.5KE30(C)A	28.50	31.50	1.0	1.0	25.6	36.23	41.4	1.5KE30A	1.5KE30CA
1.5KE33(C)A	31.35	34.65	1.0	1.0	28.2	32.82	45.7	1.5KE33A	1.5KE33CA
1.5KE36(C)A	34.20	37.80	1.0	1.0	30.8	30.06	49.9	1.5KE36A	1.5KE36CA
1.5KE39(C)A	37.05	40.95	1.0	1.0	33.3	27.83	53.9	1.5KE39A	1.5KE39CA
1.5KE43(C)A	40.85	45.15	1.0	1.0	36.8	25.30	59.3	1.5KE43A	1.5KE43CA
1.5KE47(C)A	44.65	49.35	1.0	1.0	40.2	23.15	64.8	1.5KE47A	1.5KE47CA
1.5KE51(C)A	48.45	53.55	1.0	1.0	43.6	21.40	70.1	1.5KE51A	1.5KE51CA
1.5KE56(C)A	53.20	58.80	1.0	1.0	47.8	19.48	77.0	1.5KE56A	1.5KE56CA
1.5KE62(C)A	58.90	65.10	1.0	1.0	53.0	17.65	85.0	1.5KE62A	1.5KE62CA
1.5KE68(C)A	64.60	71.40	1.0	1.0	58.1	16.30	92.0	1.5KE68A	1.5KE68CA
1.5KE75(C)A	71.25	78.75	1.0	1.0	64.1	14.56	103.0	1.5KE75A	1.5KE75CA
1.5KE82(C)A	77.90	86.10	1.0	1.0	70.1	13.27	113.0	1.5KE82A	1.5KE82CA
1.5KE91(C)A	86.45	95.55	1.0	1.0	77.8	12.00	125.0	1.5KE91A	1.5KE91CA
1.5KE100(C)A	95.00	105.00	1.0	1.0	85.5	10.95	137.0	1.5KE100A	1.5KE100CA
1.5KE110(C)A	104.50	115.50	1.0	1.0	94.0	9.87	152.0	1.5KE110A	1.5KE110CA
1.5KE120(C)A	114.00	126.00	1.0	1.0	102.0	9.09	165.0	1.5KE120A	1.5KE120CA
1.5KE130(C)A	123.50	136.50	1.0	1.0	111.0	8.38	179.0	1.5KE130A	1.5KE130CA
1.5KE150(C)A	142.50	157.50	1.0	1.0	128.0	7.25	207.0	1.5KE150A	1.5KE150CA
1.5KE160(C)A	152.00	168.00	1.0	1.0	136.0	6.85	219.0	1.5KE160A	1.5KE160CA
1.5KE170(C)A	161.50	178.50	1.0	1.0	145.0	6.41	234.0	1.5KE170A	1.5KE170CA
1.5KE180(C)A	171.00	189.00	1.0	1.0	154.0	6.10	246.0	1.5KE180A	1.5KE180CA
1.5KE200(C)A	190.00	210.00	1.0	1.0	171.0	5.47	274.0	1.5KE200A	1.5KE200CA
1.5KE220(C)A	209.00	231.00	1.0	1.0	185.0	4.57	328.0	1.5KE220A	1.5KE220CA
1.5KE250(C)A	237.50	262.50	1.0	1.0	214.0	4.36	344.0	1.5KE250A	1.5KE250CA
1.5KE300(C)A	285.00	315.00	1.0	1.0	256.0	3.62	414.0	1.5KE300A	1.5KE300CA
1.5KE350(C)A	332.50	367.50	1.0	1.0	299.3	3.11	482.0	1.5KE350A	1.5KE350CA
1.5KE380(C)A	361.00	399.00	1.0	1.0	324.9	2.86	524.4	1.5KE380A	1.5KE380CA
1.5KE400(C)A	380.00	420.00	1.0	1.0	342.0	2.72	548.0	1.5KE400A	1.5KE400CA
1.5KE440(C)A	418.00	462.00	1.0	1.0	376.2	2.47	602.0	1.5KE440A	1.5KE440CA
1.5KE500(C)A	475.00	525.00	1.0	1.0	427.5	2.17	690.0	1.5KE500A	1.5KE500CA
1.5KE520(C)A	494.00	546.00	1.0	1.0	444.6	2.09	717.6	1.5KE520A	1.5KE520CA
1.5KE550(C)A	522.50	577.50	1.0	1.0	470.3	1.98	759.0	1.5KE550A	1.5KE550CA
1.5KE600(C)A	570.00	630.00	1.0	1.0	513.0	1.81	828.0	1.5KE600A	1.5KE600CA

Note: 1) Suffix A denotes 5% tolerance devices.

2) Add suffix "C" or "CA" after part number to specify Bi-directional devices.

3) For Bi-Directional devices having VR of 10 volts and under, the IR limit is double.

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Rating and Characteristic Curves (1.5KE6.8(C)A THRU 1.5KE600(C)A)

Fig.1 - Pulse Derating Curve

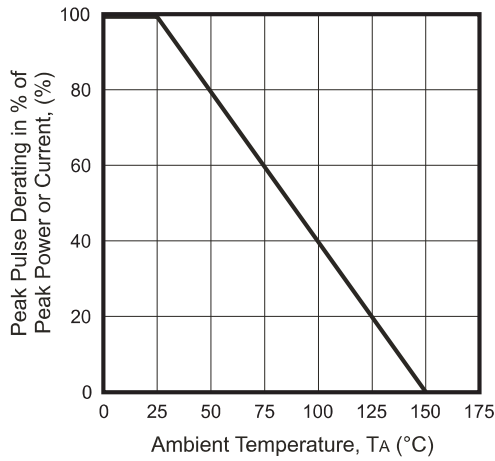


Fig.2 - Max. Non-repetitive Surge Current

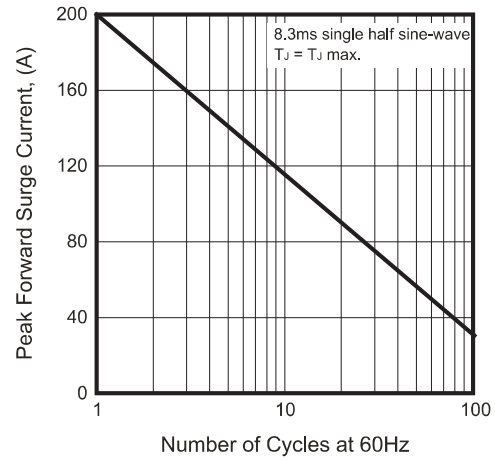


Fig.3 - Steady State Power Derating Curve

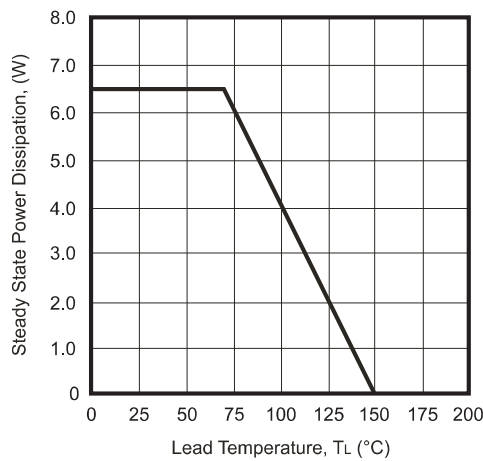


Fig.4 - Peak Pulse Power Rating Curve

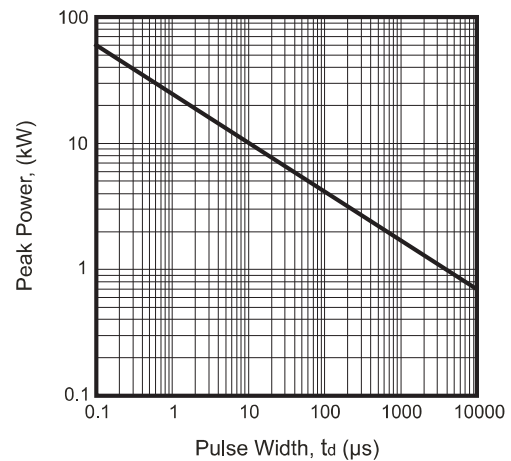


Fig.5 - Pulse Waveform

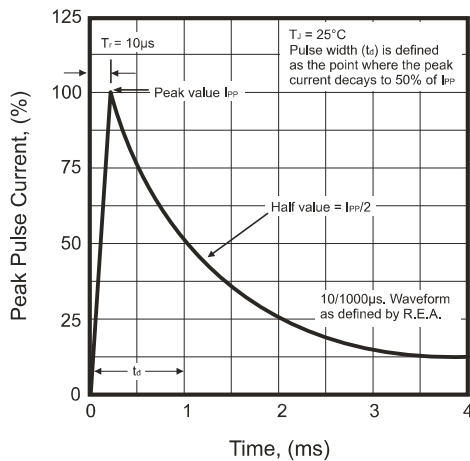
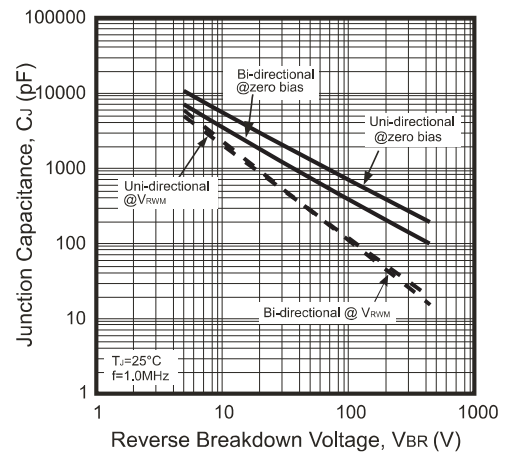
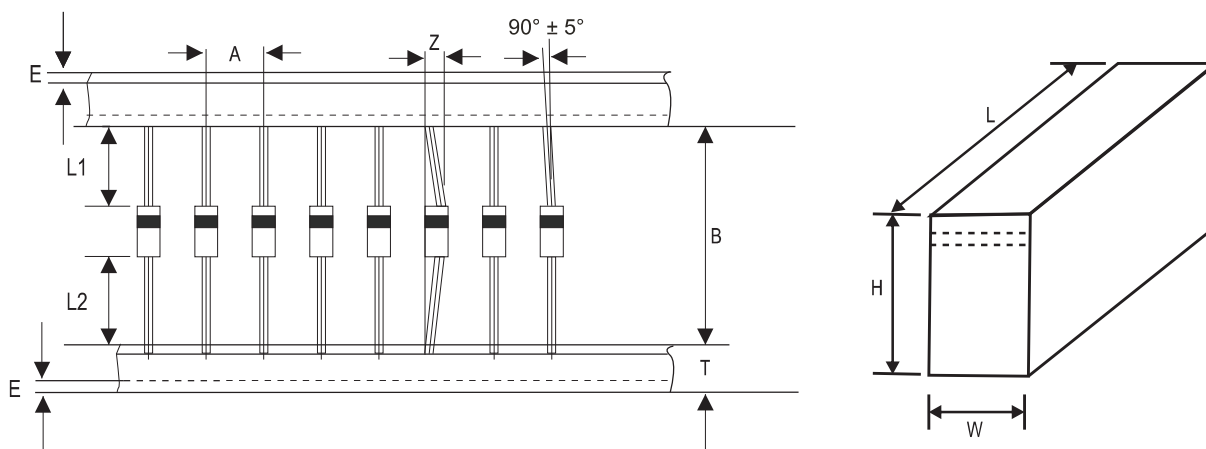


Fig.6 - Typical Junction Capacitance



Taping Specification For Axial Lead Diodes



	SYMBOL	A	B	Z	T	E
DO-201AD	(mm)	10.00 ± 0.50	52.40 (max)	1.60 (max)	6.00 ± 0.40	3.00 (max)
	(inch)	0.394 ± 0.020	2.063 (max)	0.062 (max)	0.236 ± 0.016	0.118 (max)

	SYMBOL	L1-L2	L	W	H
DO-201AD	(mm)	1.00(max)	260 ± 5.00	75 ± 5.00	145 ± 5.00
	(inch)	0.039(max)	10.236 ± 0.197	2.953 ± 0.197	5.709 ± 0.197

Standard Packaging

Case Type	AMMO PACK
	BOX (pcs)
DO-201AD	1,250