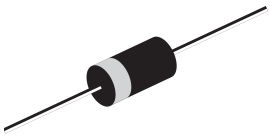
1500W PEAK POWER AXIAL LEAD TRANSIENT VOLTAGE SUPPRESSORS

1.5KE6.8 - 1.5KE440CA DO-201AD



DO-201AD

Features
1). Working Peak reverse Voltage Range - 58.1V
2). Peak Power Dissipation 1500W @ 10 X 1000us pulse
3). Excellent Clamping Capability
4). Fast Response Time : Typically Less than 1ns
5). Typical IR Less than 1uA above 10V
6). RoHS Compliant in Lead Free Versions

Mechanical Characteristics
Package : DO-201AD, Moulded Plastic over Glass Passivated Junction.
Mounting Position : Any
Polarity : by Cathode Band Denotes Uni - Directional Device.
Terminal : Solder Plated

Maximum Ratings and Characteristics @ 25°C Ambient Temperature (unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2 Fig.1)	P_{PPM}	Min 1500	W
Peak Pulse Current of on 10/1000us Waverform (Note 1, Fig.3)	I_{PPM}	Specified	A
Peak Forward Surge Current, 8.3ms single Half Sine Wave Superimposed on Rated Load, (Note 2, 3)	I_{FSM}	200	A
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

Note :
1). Non-repetitive Current Pulse, per Fig3 and Derated above T_A = 25°C per Fig 2.
2). Mounted on 5.0mm^2 (0.03mm thick) Copper Pads to Each Terminal.
3). 8.5ms Single Half Sine wave or Equivalent Square Wave, Duty Cycle = 4 pulses per minute maximum.

1.5KE6.8 - 1.5KE440CA
DO-201AD

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RMW}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	Ipp(A)	I_R(uA)
1.5KE6.8A	1.5KE6.8CA	5.80	6.45	7.14	10	10.5	144.8	1000.0
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10	11.3	134.5	500.0
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10	12.1	125.6	200.0
1.5KE9.1A	1.5KE9.1CA	7.78	8.65	9.55	1.0	13.4	113.4	50.0
1.5KE10A	1.5KE10CA	8.55	9.50	10.5	1.0	14.5	104.8	10.0
1.5KE11A	1.5KE11CA	9.40	10.5	11.6	1.0	15.6	97.4	5.0
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1.0	16.7	91.0	5.0
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1.0	18.2	83.5	5.0
1.5KE15A	1.5KE15CA	12.8	14.3	15.8	1.0	21.2	71.7	5.0
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1.0	22.5	67.6	5.0
1.5KE18A	1.5KE18CA	15.3	17.1	18.9	1.0	25.2	60.3	5.0
1.5KE20A	1.5KE20CA	17.1	19.0	21.0	1.0	27.7	54.9	5.0
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1.0	30.6	49.7	5.0
1.5KE24A	1.5KE24CA	20.5	22.8	25.2	1.0	33.2	45.8	5.0

1.5KE6.8 - 1.5KE440CA
DO-201AD

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RMW}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	Ipp(A)	I_R(uA)
1.5KE27A	1.5KE27CA	23.1	25.7	28.4	1.0	37.5	40.5	5.0
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1.0	41.4	36.7	5.0
1.5KE33A	1.5KE33CA	28.2	31.4	34.7	1.0	45.7	33.3	5.0
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1.0	49.9	30.5	5.0
1.5KE39A	1.5KE39CA	33.3	37.1	41.0	1.0	53.9	28.2	5.0
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1.0	59.3	25.6	5.0
1 5KE47A	1 5KE47CA	40.2	44.7	49.4	1.0	64.8	23.5	5.0
1.5KE51A	1.5KE51CA	43.6	48.5	53.6	1.0	70.1	21.7	5.0
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1.0	77.0	19.7	5.0
1.5KE62A	1.5KE62CA	53.0	58.9	65.1	1.0	85.0	17.9	5.0
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1.0	92.0	16.5	5.0
1.5KE75A	1.5KE75CA	64.1	71.3	78.8	1.0	103	14.8	5.0
1.5KE82A	1 5KE82CA	70.1	77.9	86.1	1.0	113	13.5	5.0
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1.0	125	12.2	5.0
1.5KE100A	1.5KE100CA	85.5	95.0	105	1.0	137	11.1	5.0
1.5KE110A	1.5KE110CA	94.0	105	116	1.0	152	10.0	5.0

1.5KE6.8 - 1.5KE440CA
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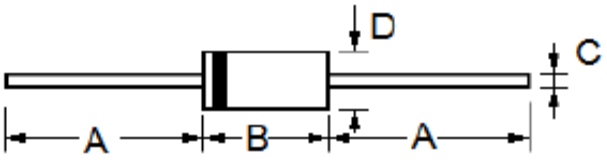
Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RMW}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	Ipp(A)	I_R(uA)
1.5KE120A	1.5KE120CA	102	114	126	1.0	165	9.2	5.0
1.5KE130A	1.5KE130CA	111	124	137	1.0	179	8.5	5.0
1.5KE150A	1.5KE150CA	128	143	158	1.0	207	7.3	5.0
1.5KE160A	1.5KE160CA	136	152	168	1.0	219	6.9	5.0
1.5KE170A	1.5KE170CA	145	162	179	1.0	234	6.5	5.0
1.5KE180A	1.5KE180CA	154	171	189	1.0	246	6.2	5.0
1.5KE200A	1.5KE200CA	171	190	210	1.0	274	5.5	5.0
1.5KE220A	1.5KE220CA	185	209	231	1.0	328	4.6	5.0
1.5KE250A	1.5KE250CA	214	237	263	1.0	344	4.4	5.0
1.5KE300A	1.5KE300CA	256	285	315	1.0	414	3.7	5.0
1.5KE350A	1.5KE350CA	300	333	368	1.0	482	3.2	5.0
1.5KE400A	1.5KE400CA	342	380	420	1.0	548	2.8	5.0
1.5KE440A	1.5KE440CA	376	418	462	1.0	600	2.5	5.0

1.5KE6.8 - 1.5KE440CA
DO-201AD

DO-201AD PACKAGE DIMENSION



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	25.4	---	1.000	---
B	7.2	9.5	0.285	0.375
C	0.96	1.07	0.038	0.042
D	4.8	5.3	0.188	0.210

1.5KE6.8 - 1.5KE440CA
DO-201AD

Ratings and Characteristic Curves T_A=25°C unless otherwise noted

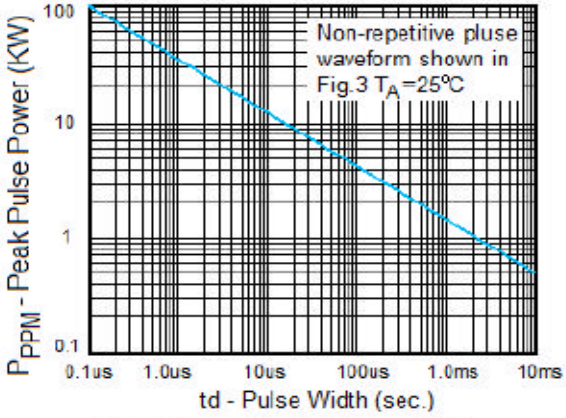


Fig. 1 Peak Pulse Power Rating

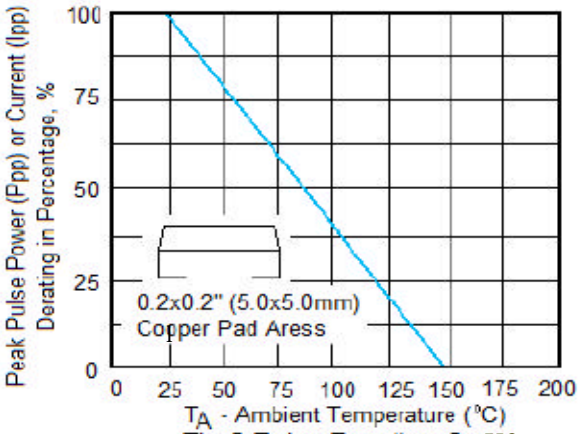


Fig.2 Pulse Derating Curve

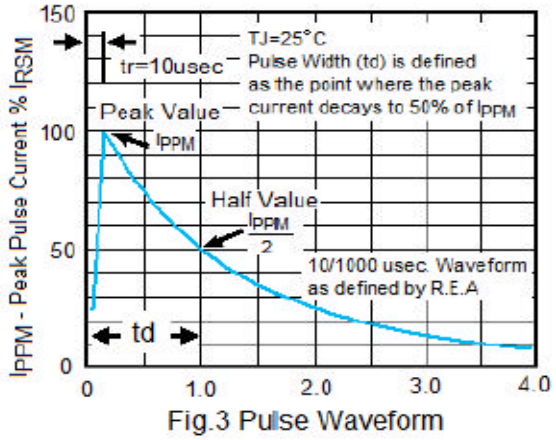


Fig.3 Pulse Waveform

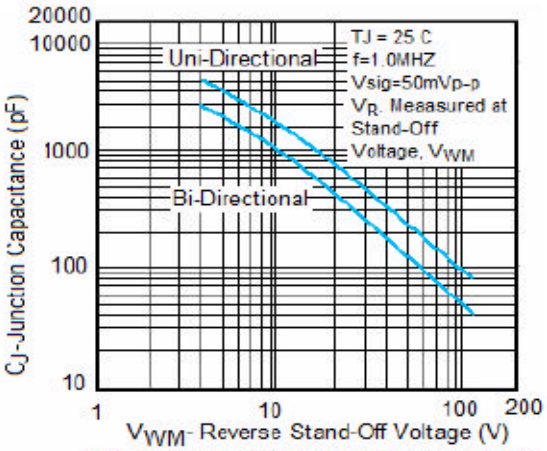


Fig. 4- Typical Junction Capacitance

Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.
If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.
The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.
For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	**Time**	**Condition**
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH

Customer Notes

Disclaimer

•The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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