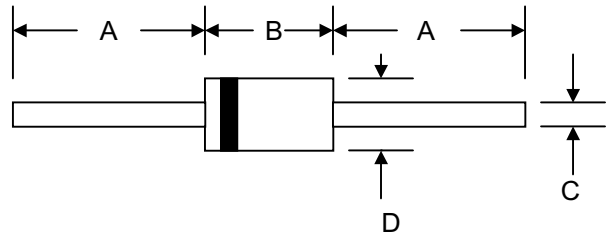


Data Sheet 5005, Rev.-

*Green Products*

**Features**

- Glass Passivated Die Construction
- 1500W Peak Pulse Power Dissipation
- 6.8V – 440V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- UL Recognized File # E224235
- Green Products in Compliance with the RoHS Directive



**Mechanical Data**

- Case: JEDEC DO-201AE Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Marking:  
Unidirectional – Device Code and Cathode Band  
Bidirectional – Device Code Only
- Weight: 1.20 grams (approx.)

DO-201AE				
Dim	Min	Max	Min	Max
A	25.4	—	1.000	—
B	7.20	9.50	0.283	0.374
C	0.94	1.07	0.037	0.042
D	4.80	5.30	0.189	0.209
All	In mm		In inch	

“C” Suffix Designates Bi-directional Devices  
 “A” Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

**Maximum Ratings and Electrical Characteristics** @ $T_A=25^{\circ}\text{C}$  unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A = 25^{\circ}\text{C}$ (Note 1, 2, 5) Figure 1	PPPM	1500 Minimum	W
Peak Forward Surge Current per Figure 6 (Note 3)	IFSM	200	A
Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 3	IPPM	See Table 1	A
Steady State Power Dissipation (Note 2, 4)	PM(AV)	5.0	W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +175	$^{\circ}\text{C}$

- Note: 1. Non-repetitive current pulse, per Figure 3 and derated above  $T_A = 25^{\circ}\text{C}$  per Figure 2  
 2. Mounted on 20mm<sup>2</sup> copper pad  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum  
 4. Lead temperature at  $75^{\circ}\text{C} = T_L$   
 5. Peak pulse power waveform is 10/1000 $\mu\text{S}$



Fig. 1 Pulse Waveform



Fig. 2 Typical Junction Capacitance



Fig. 3 Pulse Rating Curve



Fig. 4 Pulse Derating Curve



Fig. 5, Steady State Power Derating

## UNI-DIRECTIONAL 1500 WATT AXIAL LEAD TVS

UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
1.5KE6.8-G	5.50	6.12	7.48	10	10.8	139.00	1000
1.5KE6.8A-G	5.80	6.45	7.14	10	10.5	143.00	1000
1.5KE7.5-G	6.05	6.75	8.25	10	11.7	128.00	500
1.5KE7.5A-G	6.40	7.13	7.88	10	11.3	132.00	500
1.5KE8.2-G	6.63	7.38	9.02	10	12.5	120.00	200
1.5KE8.2A-G	7.02	7.79	8.61	10	12.1	124.00	200
1.5KE9.1-G	7.37	8.19	10.00	1	13.8	109.00	50
1.5KE9.1A-G	7.78	8.65	9.50	1	13.4	112.00	50
1.5KE10-G	8.10	9.00	11.00	1	15.0	100.00	10
1.5KE10A-G	8.55	9.50	10.50	1	14.5	103.00	10
1.5KE11-G	8.92	9.90	12.10	1	16.2	93.00	5
1.5KE11A-G	9.40	10.50	11.60	1	15.6	96.00	5
1.5KE12-G	9.72	10.80	13.20	1	17.3	87.00	5
1.5KE12A-G	10.20	11.40	12.60	1	16.7	90.00	5
1.5KE13-G	10.50	11.70	14.30	1	19.0	79.00	5
1.5KE13A-G	11.10	12.40	13.70	1	18.2	82.00	5
1.5KE15-G	12.10	13.50	16.50	1	22.0	68.00	5
1.5KE15A-G	12.80	14.30	15.80	1	21.2	71.00	5
1.5KE16-G	12.90	14.40	17.60	1	23.5	64.00	5
1.5KE16A-G	13.60	15.20	16.80	1	22.5	67.00	5
1.5KE18-G	14.50	16.20	19.80	1	26.5	56.50	5
1.5KE18A-G	15.30	17.10	18.90	1	25.2	59.50	5
1.5KE20-G	16.20	18.00	22.00	1	29.1	51.50	5
1.5KE20A-G	17.10	19.00	21.00	1	27.7	54.00	5
1.5KE22-G	17.80	19.80	24.20	1	31.9	47.00	5
1.5KE22A-G	18.80	20.90	23.10	1	30.6	49.00	5
1.5KE24-G	19.40	21.60	26.40	1	34.7	43.00	5
1.5KE24A-G	20.50	22.80	25.20	1	33.2	45.00	5
1.5KE27-G	21.80	24.30	29.70	1	39.1	38.50	5
1.5KE27A-G	23.10	25.70	28.40	1	37.5	40.00	5
1.5KE30-G	24.30	27.00	33.00	1	43.5	34.50	5
1.5KE30A-G	25.60	28.50	31.50	1	41.4	36.00	5
1.5KE33-G	26.80	29.70	36.30	1	47.7	31.50	5
1.5KE33A-G	28.20	31.40	34.70	1	45.7	33.00	5
1.5KE36-G	29.10	32.40	39.60	1	52.0	29.00	5
1.5KE36A-G	30.80	34.20	37.80	1	49.9	30.00	5
1.5KE39-G	31.60	35.10	42.90	1	56.4	26.50	5
1.5KE39A-G	33.30	37.10	41.00	1	53.9	28.00	5
1.5KE43-G	34.80	38.70	47.30	1	61.9	24.00	5
1.5KE43A-G	36.80	40.90	45.20	1	59.3	25.30	5
1.5KE47-G	38.10	42.30	51.70	1	67.8	22.20	5
1.5KE47A-G	40.20	44.70	49.40	1	64.8	23.20	5
1.5KE51-G	41.30	45.90	56.10	1	73.5	20.40	5
1.5KE51A-G	43.60	48.50	53.60	1	70.1	21.40	5
1.5KE56-G	45.60	50.40	61.60	1	80.5	18.60	5
1.5KE56A-G	47.80	53.20	58.80	1	77.0	19.50	5
1.5KE62-G	50.20	55.80	68.20	1	89.0	16.90	5
1.5KE62A-G	53.00	58.90	65.10	1	85.0	17.70	5
1.5KE68-G	55.10	61.20	74.80	1	98.0	15.30	5
1.5KE68A-G	58.10	64.60	71.40	1	92.0	16.30	5
1.5KE75-G	60.70	67.50	82.50	1	108.0	13.90	5
1.5KE75A-G	64.10	71.30	78.80	1	103.0	14.60	5
1.5KE82-G	66.40	73.80	90.20	1	118.0	12.70	5
1.5KE82A-G	70.10	77.90	86.10	1	113.0	13.30	5
1.5KE91-G	73.70	81.90	100.00	1	131.0	11.40	5
1.5KE91A-G	77.80	86.50	95.50	1	125.0	12.00	5
1.5KE100-G	81.00	90.00	110.00	1	144.0	10.40	5
1.5KE100A-G	85.50	95.00	105.00	1	137.0	11.00	5
1.5KE110-G	89.20	99.00	121.00	1	158.0	9.50	5
1.5KE110A-G	94.00	105.00	116.00	1	152.0	9.90	5
1.5KE120-G	97.20	108.00	132.00	1	173.0	8.70	5
1.5KE120A-G	102.00	114.00	126.00	1	165.0	9.10	5
1.5KE130-G	105.00	117.00	143.00	1	187.0	8.00	5
1.5KE130A-G	111.00	124.00	137.00	1	179.0	8.40	5
1.5KE150-G	121.00	135.00	165.00	1	215.0	7.00	5
1.5KE150A-G	128.00	143.00	158.00	1	207.0	7.20	5
1.5KE160-G	130.00	144.00	176.00	1	230.0	6.50	5
1.5KE160A-G	136.00	152.00	168.00	1	219.0	6.80	5
1.5KE170-G	138.00	153.00	187.00	1	244.0	6.20	5
1.5KE170A-G	145.00	162.00	179.00	1	234.0	6.40	5
1.5KE180-G	146.00	162.00	198.00	1	258.0	5.80	5
1.5KE180A-G	154.00	171.00	189.00	1	246.0	6.10	5
1.5KE200-G	162.00	180.00	220.00	1	287.0	5.20	5
1.5KE200A-G	171.00	190.00	210.00	1	274.0	5.50	5
1.5KE220-G	175.00	198.00	242.00	1	344.0	4.30	5
1.5KE220A-G	185.00	209.00	231.00	1	328.0	4.60	5
1.5KE250-G	202.00	225.00	275.00	1	360.0	5.00	5
1.5KE250A-G	214.00	237.00	263.00	1	344.0	5.00	5
1.5KE300-G	243.00	270.00	330.00	1	430.0	5.00	5
1.5KE300A-G	256.00	285.00	315.00	1	414.0	5.00	5
1.5KE350-G	284.00	315.00	385.00	1	504.0	4.00	5
1.5KE350A-G	300.00	332.00	368.00	1	482.0	4.00	5
1.5KE400-G	324.00	360.00	440.00	1	574.0	4.00	5
1.5KE400A-G	342.00	380.00	420.00	1	548.0	4.00	5
1.5KE440-G	356.00	396.00	484.00	1	631.0	4.00	5
1.5KE440A-G	376.00	418.00	462.00	1	600.0	4.00	5

Note: 1.5KE220-G~1.5KE440-G have two chips.

## BI-DIRECTIONAL 1500 WATT AXIAL LEAD TVS

BI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
1.5KE6.8C-G	5.50	6.12	7.48	10	10.8	139.00	2000
1.5KE6.8CA-G	5.80	6.45	7.14	10	10.5	143.00	2000
1.5KE7.5C-G	6.05	6.75	8.25	10	11.7	128.00	1000
1.5KE7.5CA-G	6.40	7.13	7.88	10	11.3	132.00	1000
1.5KE8.2C-G	6.63	7.38	9.02	10	12.5	120.00	400
1.5KE8.2CA-G	7.02	7.79	8.61	10	12.1	124.00	400
1.5KE9.1C-G	7.37	8.19	10.00	1	13.8	109.00	100
1.5KE9.1CA-G	7.78	8.65	9.50	1	13.4	112.00	100
1.5KE10C-G	8.10	9.00	11.00	1	15.0	100.00	20
1.5KE10CA-G	8.55	9.50	10.50	1	14.5	103.00	20
1.5KE11C-G	8.92	9.90	12.10	1	16.2	93.00	10
1.5KE11CA-G	9.40	10.50	11.60	1	15.6	96.00	10
1.5KE12C-G	9.72	10.80	13.20	1	17.3	87.00	5
1.5KE12CA-G	10.20	11.40	12.60	1	16.7	90.00	5
1.5KE13C-G	10.50	11.70	14.30	1	19.0	79.00	5
1.5KE13CA-G	11.10	12.40	13.70	1	18.2	82.00	5
1.5KE15C-G	12.10	13.50	16.50	1	22.0	68.00	5
1.5KE15CA-G	12.80	14.30	15.80	1	21.2	71.00	5
1.5KE16C-G	12.90	14.40	17.60	1	23.5	64.00	5
1.5KE16CA-G	13.60	15.20	16.80	1	22.5	67.00	5
1.5KE18C-G	14.50	16.20	19.80	1	26.5	56.50	5
1.5KE18CA-G	15.30	17.10	18.90	1	25.2	59.50	5
1.5KE20C-G	16.20	18.00	22.00	1	29.1	51.50	5
1.5KE20CA-G	17.10	19.00	21.00	1	27.7	54.00	5
1.5KE22C-G	17.80	19.80	24.20	1	31.9	47.00	5
1.5KE22CA-G	18.80	20.90	23.10	1	30.6	49.00	5
1.5KE24C-G	19.40	21.60	26.40	1	34.7	43.00	5
1.5KE24CA-G	20.50	22.80	25.20	1	33.2	45.00	5
1.5KE27C-G	21.80	24.30	29.70	1	39.1	38.50	5
1.5KE27CA-G	23.10	25.70	28.40	1	37.5	40.00	5
1.5KE30C-G	24.30	27.00	33.00	1	43.5	34.50	5
1.5KE30CA-G	25.60	28.50	31.50	1	41.4	36.00	5
1.5KE33C-G	26.80	29.70	36.30	1	47.7	31.50	5
1.5KE33CA-G	28.20	31.40	34.70	1	45.7	33.00	5
1.5KE36C-G	29.10	32.40	39.60	1	52.0	29.00	5
1.5KE36CA-G	30.80	34.20	37.80	1	49.9	30.00	5
1.5KE39C-G	31.60	35.10	42.90	1	56.4	26.50	5
1.5KE39CA-G	33.30	37.10	41.00	1	53.9	28.00	5
1.5KE43C-G	34.80	38.70	47.30	1	61.9	24.00	5
1.5KE43CA-G	36.80	40.90	45.20	1	59.3	25.30	5
1.5KE47C-G	38.10	42.30	51.70	1	67.8	22.20	5
1.5KE47CA-G	40.20	44.70	49.40	1	64.8	23.20	5
1.5KE51C-G	41.30	45.90	56.10	1	73.5	20.40	5
1.5KE51CA-G	43.60	48.50	53.60	1	70.1	21.40	5
1.5KE56C-G	45.60	50.40	61.60	1	80.5	18.60	5
1.5KE56CA-G	47.80	53.20	58.80	1	77.0	19.50	5
1.5KE62C-G	50.20	55.80	68.20	1	89.0	16.90	5
1.5KE62CA-G	53.00	58.90	65.10	1	85.0	17.70	5
1.5KE68C-G	55.10	61.20	74.80	1	98.0	15.30	5
1.5KE68CA-G	58.10	64.60	71.40	1	92.0	16.30	5
1.5KE75C-G	60.70	67.50	82.50	1	108.0	13.90	5
1.5KE75CA-G	64.10	71.30	78.80	1	103.0	14.60	5
1.5KE82C-G	66.40	73.80	90.20	1	118.0	12.70	5
1.5KE82CA-G	70.10	77.90	86.10	1	113.0	13.30	5
1.5KE91C-G	73.70	81.90	100.00	1	131.0	11.40	5
1.5KE91CA-G	77.80	86.50	95.50	1	125.0	12.00	5
1.5KE100C-G	81.00	90.00	110.00	1	144.0	10.40	5
1.5KE100CA-G	85.50	95.00	105.00	1	137.0	11.00	5
1.5KE110C-G	89.20	99.00	121.00	1	158.0	9.50	5
1.5KE110CA-G	94.00	105.00	116.00	1	152.0	9.90	5
1.5KE120C-G	97.20	108.00	132.00	1	173.0	8.70	5
1.5KE120CA-G	102.00	114.00	126.00	1	165.0	9.10	5
1.5KE130C-G	105.00	117.00	143.00	1	187.0	8.00	5
1.5KE130CA-G	111.00	124.00	137.00	1	179.0	8.40	5
1.5KE150C-G	121.00	135.00	165.00	1	215.0	7.00	5
1.5KE150CA-G	128.00	143.00	158.00	1	207.0	7.20	5
1.5KE160C-G	130.00	144.00	176.00	1	230.0	6.50	5
1.5KE160CA-G	136.00	152.00	168.00	1	219.0	6.80	5
1.5KE170C-G	138.00	153.00	187.00	1	244.0	6.20	5
1.5KE170CA-G	145.00	162.00	179.00	1	234.0	6.40	5
1.5KE180C-G	146.00	162.00	198.00	1	258.0	5.80	5
1.5KE180CA-G	154.00	171.00	189.00	1	246.0	6.10	5
1.5KE200C-G	162.00	180.00	220.00	1	287.0	5.20	5
1.5KE200CA-G	171.00	190.00	210.00	1	274.0	5.50	5
1.5KE220C-G	175.00	198.00	242.00	1	344.0	4.30	5
1.5KE220CA-G	185.00	209.00	231.00	1	328.0	4.60	5
1.5KE250C-G	202.00	225.00	275.00	1	360.0	5.00	5
1.5KE250CA-G	214.00	237.00	263.00	1	344.0	5.00	5
1.5KE300C-G	243.00	270.00	330.00	1	430.0	5.00	5
1.5KE300CA-G	256.00	285.00	315.00	1	414.0	5.00	5
1.5KE350C-G	284.00	315.00	385.00	1	504.0	4.00	5
1.5KE350CA-G	300.00	332.00	368.00	1	482.0	4.00	5
1.5KE400C-G	324.00	360.00	440.00	1	574.0	4.00	5
1.5KE400CA-G	342.00	380.00	420.00	1	548.0	4.00	5
1.5KE440C-G	356.00	396.00	484.00	1	631.0	4.00	5
1.5KE440CA-G	376.00	418.00	462.00	1	600.0	4.00	5

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