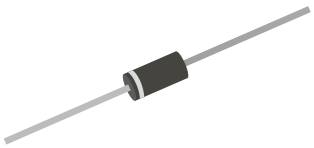
# 1.5KE-G Series

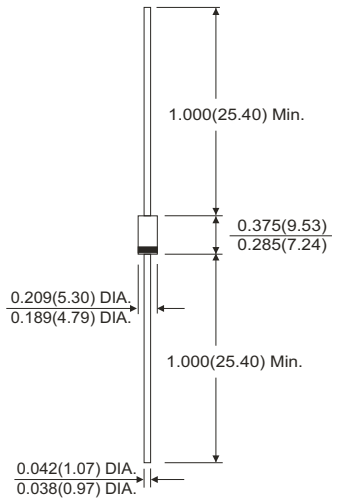
## Breakdown Voltage: 6.8 to 600 Volts
## Peak Pulse Power: 1500 Watts
## RoHS Device



## Features

- Glass passivated chip.
- 1500W peak pulse power capability with a 10/1000μs waveform, repetitive rate (duty cycle):0.01%
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- UL recognized file # E349157
  Range: 1.5KE6.8(C)A thru. 1.5KE120(C)A

**DO-201**




Dimensions in inches and (millimeter)

## Mechanical Data

-Case: Molded plastic DO-201

-Epoxy: UL 94V-0 rate flame retardant

-Lead: Solderable per MIL-STD-202, method 208 guranteed.

-Polarity: Color band denotes cathode end except Bipolar.

-Mounting position: Any

-Weight: 0.844 gram (approx.)

## Maximum Ratings ($T_A$=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak power dissipation with a 10/1000μs waveform (Note 1) | $P_{PP}$ | 1500 | W |
| Peak pulse current with a 10/1000μs waveform (Note 1) | $I_{PP}$ | See Next Table | A |
| Power dissipation on infinite heatsink at $T_L$=75°C | $P_D$ | 6.5 | W |
| Peak forward surge current, 8.3ms single half sine-wave unidirectional only (JEDEC method) (Note 2) | $I_{FSM}$ | 200 | A |
| Maximum instantaneous forward voltage at 100 A for unidirectional only (Note 3) | $V_F$ | 3.5/5.0 | V |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | -55 to +150 | °C |

NTOES:
(1) Non-repetitive current pulse, per fig.5 and derated above $T_A$=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) $V_F$<3.5V for devices of $V_{BR}$<200V and $V_F$<5.0V for devices of $V_{BR}$>201V

Company reserves the right to improve product design , functions and reliability without notice.

## RATING AND CHARACTERISTIC CURVES (1.5KE6.8-G Thru. 1.5KE600-G)

Fig.1 - Pulse Derating Curve

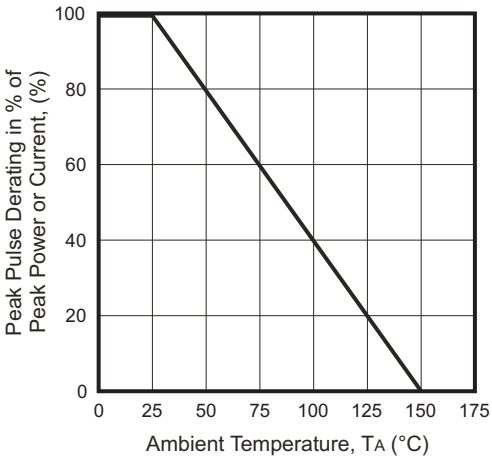



Fig.2 - Max. Non-repetitive Surge Current

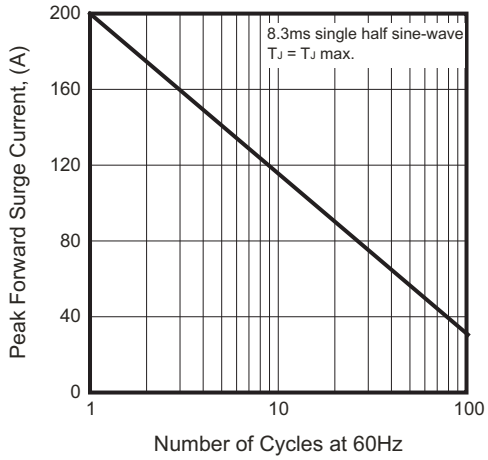



Fig.3 - Steady State Power Derating Curve

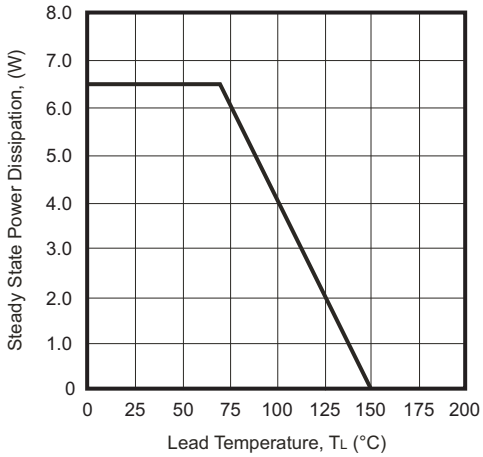



Fig.4 - Peak Pulse Power Rating Curve

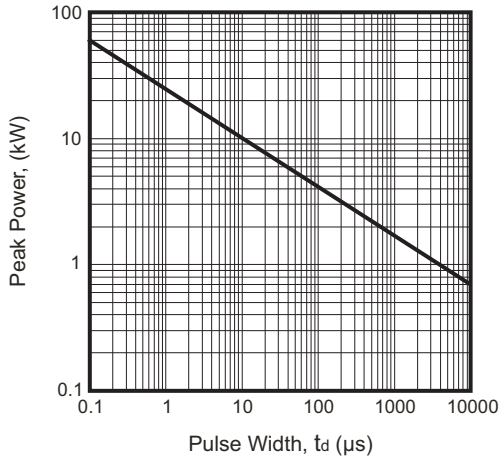



Fig.5 - Pulse Waveform

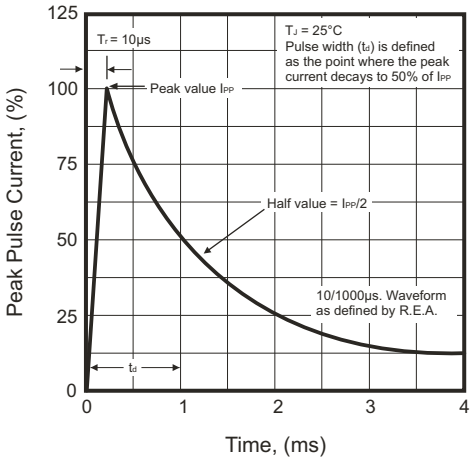
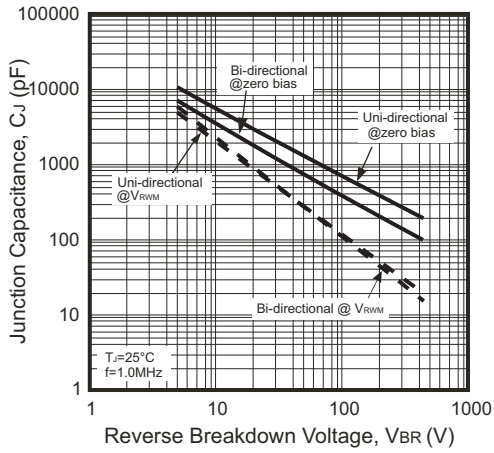



Fig.6 - Typical Junction Capacitance

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## Electrical Characteristics (1.5KE6.8-G Thru. 1.5KE600-G)

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

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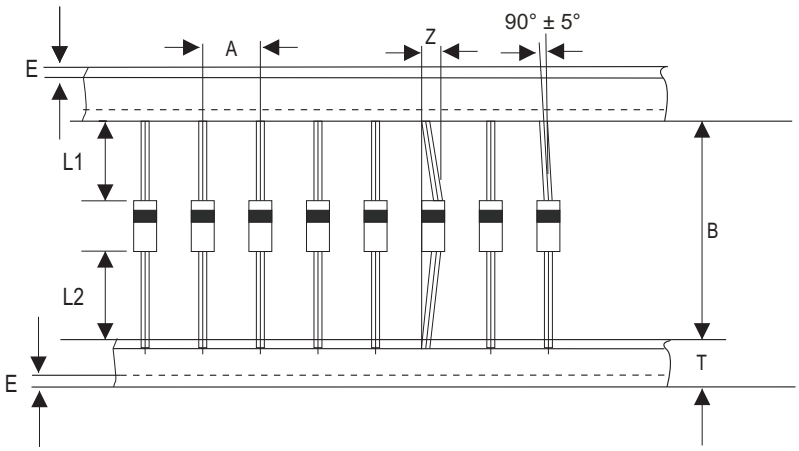
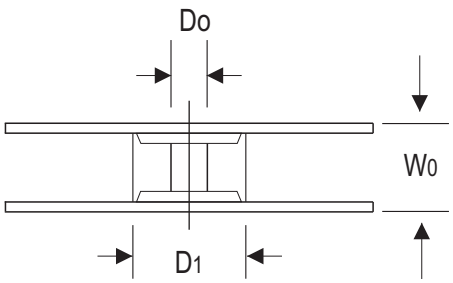
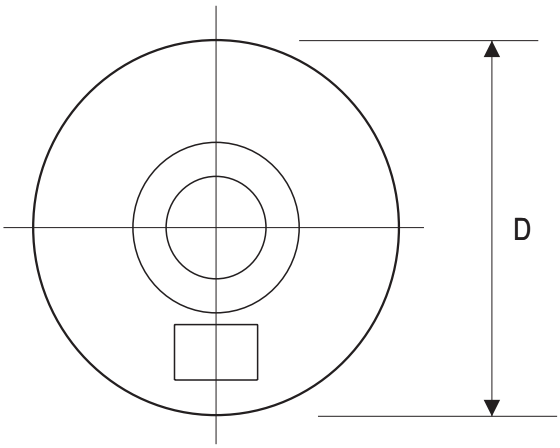
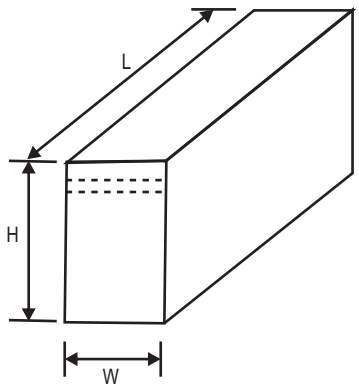
# Taping Specification For Axial Lead Diodes




| | SYMBOL | A | B | Z | T | E | L1 | L2 |
|---|---|---|---|---|---|---|---|---|
| DO-201 | (mm) | 10.00 ± 0.50 | 52.00 ± 0.50 | 1.20 (max) | 6.00 ± 0.40 | 1.00 (max) | 1.00 (max) | 1.00 (max) |
| | (inch) | 0.394 ± 0.020 | 2.047 ± 0.020 | 0.047 (max) | 0.236 ± 0.016 | 0.039 (max) | 0.039 (max) | 0.039 (max) |

| | SYMBOL | D1 | D0 | D | W0 | L | W | H |
|---|---|---|---|---|---|---|---|---|
| DO-201 | (mm) | 85.70 ± 0.30 | 16.60 ± 0.40 | 330.00 | 72.00 ± 3.00 | 260.00 | 75.00 | 145.00 |
| | (inch) | 3.374 ± 0.012 | 0.654 ± 0.016 | 13.000 | 2.835 ± 0.118 | 10.236 | 2.953 | 5.709 |

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## Standard Packaging

| Packaging | Code | Part Number |
|---|---|---|
| AMMO PACK | NA | 1.5KEXXX(C)A-G |
| REEL PACK | T | 1.5KEXXX(C)AT-G |
| BULK PACK | B | 1.5KEXXX(C)AB-G |

Note: (1)Suffix code after part number to specify packaging item.
(2)XXX on behalf of serial products.

| Case Type | REEL PACK | |
|---|---|---|
| | REEL ( pcs ) | Reel Size (inch) |
| DO-201AD | 1,200 | 13 |

| Case Type | AMMO PACK | |
|---|---|---|
| | BOX ( pcs ) | CARTON ( pcs ) |
| DO-201AD | 1,000 | 10,000 |

| Case Type | BULK PACK | |
|---|---|---|
| | BOX ( pcs ) | CARTON ( pcs ) |
| DO-201AD | 200 | 10,000 |

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AVIC JONHON

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Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А