

GLASS PASSIVATED UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE - **6.8 to 440** Volts
POWER DISSIPATION - **1500** WATTS

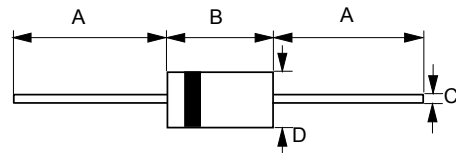
FEATURES

- Glass passivated chip
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- The plastic material has U/L recognition 94V-0
- Fast response time

MECHANICAL DATA

- Case : Molded Plastic
- Marking : Unidirectional - type number and cathode band Bidirectional - type number only
- Weight : 1.2 grams

DO-201



| DO-201 | | |
|------------------------------|-------------|-------------|
| Dim. | Min. | Max. |
| A | 25.4 | - |
| B | 8.50 | 9.50 |
| C | 0.96 ϕ | 1.06 ϕ |
| D | 4.80 ϕ | 5.30 ϕ |
| All Dimensions in millimeter | | |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS | SYMBOLS | VALUE | UNIT |
|---|---|----------------|-------|
| PEAK POWER DISSIPATION AT TA = 25°C, TP = 1ms (Note 1) | PPK | 1500 | WATTS |
| Peak Forward Surge Current 8.3ms single half sine-wave@Tj=25°C (Note 2) | IFSM | 200 | AMPS. |
| Steady State Power Dissipation at TL =120°C lead lengths 0.375" (9.5mm) , see fig.4 Without Heatshink | PM(AV) | 2.5 | WATTS |
| Maximum Instantaneous forward voltage at 100A for unidirectional devices only (Note 3) | VF | SEE NOTE 3 | Volts |
| Typical Thermal Resistance (Note 4) | R θ JA R θ JL R θ JC | 55 11 10 | °C/W |
| Operating Temperature Range | TJ | -55 to +175 | °C |
| Storage Temperature Range | TSTG | -55 to +175 | °C |

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

2. 8.3ms single half sine-wave duty cycle= 4 pulses per minutes maximum (uni-directional units only).

3. VF= 3.5V on 1.5KE6.8A thru1.5KE200A devices and VF= 5.0V on 1.5KE220A thru 1.5KE440A devices.

4. Thermal resistance from junction to ambient, lead and case.

REV. 9, Sep-2012, KDIF01

Datasheet.Directory

FIG.1 - PULSE DERATING CURVE

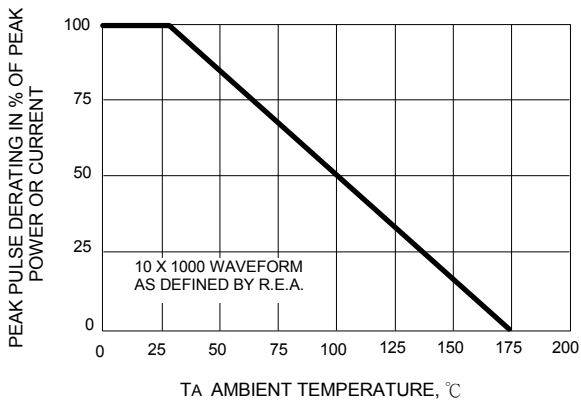


FIG.2 - TYPICAL JUNCTION CAPACITANCE

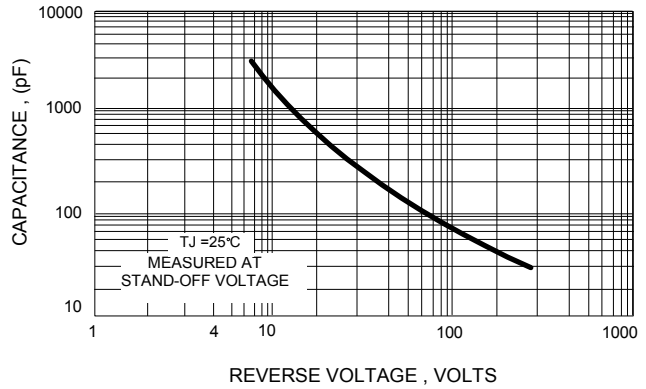


FIG.3 - PULSE RATING CURVE

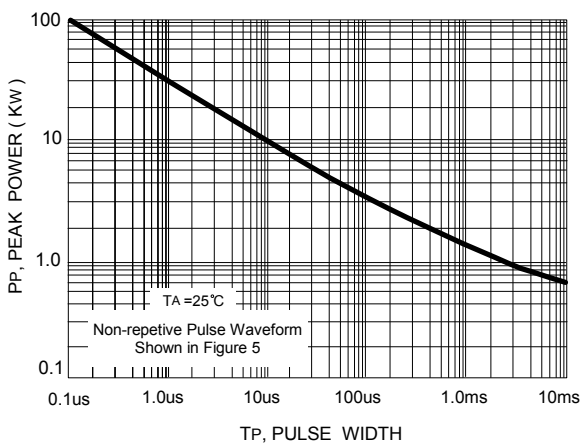


FIG.4 - STEADY STATE POWER DERATING CURVE

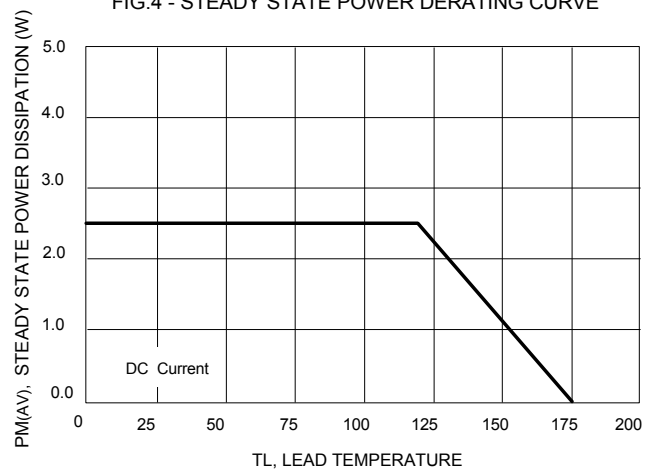
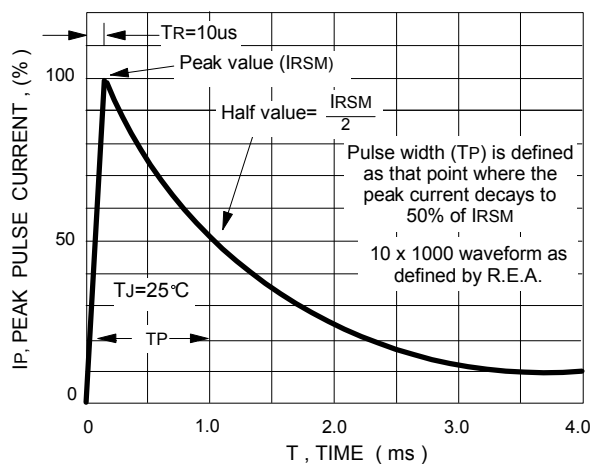


FIG.5 - PULSE WAVEFORM



| Type Number | Type Number | Reverse Standoff Voltage | Breakdown Voltage BV Volts @It | | | Max. Reverse Leakage @VR | Max. Peak Pulse Current | Max. Clamping Voltage @Ipp | Max. Voltage Temp. Variation of Bv |
|-------------|-------------|--------------------------|--------------------------------|-------|--------|--------------------------|-------------------------|----------------------------|------------------------------------|
| | | | (UNI) | (BI) | VR (V) | | | | |
| 1.5KE6.8A | 1.5KE6.8CA | 5.8 | 6.45 | 7.13 | 10 | 1000 | 142.9 | 10.5 | 0.057 |
| 1.5KE7.5A | 1.5KE7.5CA | 6.4 | 7.13 | 7.88 | 10 | 500 | 132.7 | 11.3 | 0.061 |
| 1.5KE8.2A | 1.5KE8.2CA | 7.0 | 7.79 | 8.61 | 10 | 200 | 124.0 | 12.1 | 0.065 |
| 1.5KE9.1A | 1.5KE9.1CA | 7.8 | 8.65 | 9.56 | 1 | 50 | 111.9 | 13.4 | 0.068 |
| 1.5KE10A | 1.5KE10CA | 8.6 | 9.50 | 10.50 | 1 | 10 | 103.4 | 14.5 | 0.073 |
| 1.5KE11A | 1.5KE11CA | 9.4 | 10.5 | 11.6 | 1 | 5 | 96.2 | 15.6 | 0.075 |
| 1.5KE12A | 1.5KE12CA | 10.2 | 11.4 | 12.6 | 1 | 5 | 89.8 | 16.7 | 0.078 |
| 1.5KE13A | 1.5KE13CA | 11.1 | 12.4 | 13.7 | 1 | 5 | 82.4 | 18.2 | 0.081 |
| 1.5KE15A | 1.5KE15CA | 12.8 | 14.3 | 15.8 | 1 | 5 | 70.8 | 21.2 | 0.084 |
| 1.5KE16A | 1.5KE16CA | 13.6 | 15.2 | 16.8 | 1 | 5 | 66.7 | 22.5 | 0.086 |
| 1.5KE18A | 1.5KE18CA | 15.3 | 17.1 | 18.9 | 1 | 5 | 59.5 | 25.2 | 0.088 |
| 1.5KE20A | 1.5KE20CA | 17.1 | 19.0 | 21.0 | 1 | 5 | 54.2 | 27.7 | 0.090 |
| 1.5KE22A | 1.5KE22CA | 18.8 | 20.9 | 23.1 | 1 | 5 | 49.0 | 30.6 | 0.092 |
| 1.5KE24A | 1.5KE24CA | 20.5 | 22.8 | 25.2 | 1 | 5 | 45.2 | 33.2 | 0.094 |
| 1.5KE27A | 1.5KE27CA | 23.1 | 25.7 | 28.4 | 1 | 5 | 40.0 | 37.5 | 0.096 |
| 1.5KE30A | 1.5KE30CA | 25.6 | 28.5 | 31.5 | 1 | 5 | 36.2 | 41.4 | 0.097 |
| 1.5KE33A | 1.5KE33CA | 28.2 | 31.4 | 34.7 | 1 | 5 | 32.8 | 45.7 | 0.098 |
| 1.5KE36A | 1.5KE36CA | 30.8 | 34.2 | 37.8 | 1 | 5 | 30.1 | 49.9 | 0.099 |
| 1.5KE39A | 1.5KE39CA | 33.3 | 37.1 | 41.0 | 1 | 5 | 27.8 | 53.9 | 0.100 |
| 1.5KE43A | 1.5KE43CA | 36.8 | 40.9 | 45.2 | 1 | 5 | 25.3 | 59.3 | 0.101 |
| 1.5KE47A | 1.5KE47CA | 40.2 | 44.7 | 49.4 | 1 | 5 | 23.1 | 64.8 | 0.101 |
| 1.5KE51A | 1.5KE51CA | 43.6 | 48.5 | 53.6 | 1 | 5 | 21.4 | 70.1 | 0.102 |
| 1.5KE56A | 1.5KE56CA | 47.8 | 53.2 | 58.8 | 1 | 5 | 19.5 | 77.0 | 0.103 |
| 1.5KE62A | 1.5KE62CA | 53.0 | 58.9 | 65.1 | 1 | 5 | 17.6 | 85.0 | 0.104 |
| 1.5KE68A | 1.5KE68CA | 58.1 | 64.6 | 71.4 | 1 | 5 | 16.3 | 92.0 | 0.104 |
| 1.5KE75A | 1.5KE75CA | 64.7 | 71.3 | 78.8 | 1 | 5 | 14.6 | 103.0 | 0.105 |
| 1.5KE82A | 1.5KE82CA | 70.1 | 77.9 | 86.1 | 1 | 5 | 13.3 | 113.0 | 0.105 |
| 1.5KE91A | 1.5KE91CA | 77.8 | 86.5 | 95.6 | 1 | 5 | 12.0 | 125.0 | 0.106 |
| 1.5KE100A | 1.5KE100CA | 85.5 | 95.0 | 105.0 | 1 | 5 | 10.9 | 137.0 | 0.106 |
| 1.5KE110A | 1.5KE110CA | 94.0 | 105.0 | 116.1 | 1 | 5 | 9.9 | 152.0 | 0.107 |
| 1.5KE120A | 1.5KE120CA | 102.0 | 114.0 | 126.0 | 1 | 5 | 9.1 | 165.0 | 0.107 |
| 1.5KE130A | 1.5KE130CA | 111.0 | 124.0 | 137.1 | 1 | 5 | 8.4 | 179.0 | 0.107 |
| 1.5KE150A | 1.5KE150CA | 128.0 | 143.0 | 158.1 | 1 | 5 | 7.2 | 207.0 | 0.108 |
| 1.5KE160A | 1.5KE160CA | 136.0 | 152.0 | 168.0 | 1 | 5 | 6.8 | 219.0 | 0.108 |
| 1.5KE170A | 1.5KE170CA | 145.0 | 162.0 | 179.1 | 1 | 5 | 6.4 | 234.0 | 0.108 |
| 1.5KE180A | 1.5KE180CA | 154.0 | 171.0 | 189.0 | 1 | 5 | 6.1 | 246.0 | 0.108 |
| 1.5KE200A | 1.5KE200CA | 171.0 | 190.0 | 210.0 | 1 | 5 | 5.5 | 274.0 | 0.108 |
| 1.5KE220A | 1.5KE220CA | 185.0 | 209.0 | 231.0 | 1 | 5 | 4.6 | 328.0 | 0.108 |
| 1.5KE250A | 1.5KE250CA | 214.0 | 237.0 | 262.0 | 1 | 5 | 4.4 | 344.0 | 0.110 |
| 1.5KE300A | 1.5KE300CA | 256.0 | 285.0 | 315.0 | 1 | 5 | 3.6 | 414.0 | 0.110 |
| 1.5KE350A | 1.5KE350CA | 300.0 | 332.0 | 367.0 | 1 | 5 | 3.1 | 482.0 | 0.110 |
| 1.5KE400A | 1.5KE400CA | 342.0 | 380.0 | 420.0 | 1 | 5 | 2.7 | 548.0 | 0.110 |
| 1.5KE440A | 1.5KE440CA | 376.0 | 418.0 | 462.0 | 1 | 5 | 2.5 | 600.0 | 0.110 |

NOTES: 'Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device.

1. For bidirectional devices having VR of 10 volts and under, the IR limit is doubled .
2. For unidirectional devices 1.5KE6.8A to 1.5KE200A, VFmax = 3.5V at IF = 100A 300us square wave pulse.
For unidirectional devices 1.5KE220A to 1.5KE440A, VFmax = 5.0V at IF = 100A 300us square wave pulse.

Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.