



Micro Commercial Components



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1.5KE6.8(C)(A)
THRU
1.5KE550(C)(A)

Features

- Economical Series and Quick Response
Available in Both Unidirectional and Bidirectional Construction
1500Watts Peak Power Dissipation
Excellent Clamping Capability
UL Recognized File#E331408
Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1

Maximum Ratings

Peak Pulse Power Dissipation at 25°C:1500Watts
Steady State Power Dissipation:5.0Watts at T\_L=+75°C
t\_clamping(0 Volts to V\_BR) Min):
Unidirectional<1x10^-12 Seconds; Bidirectional<5x10^-9 Seconds
Operating and Storage Temperature: -55°C to +175 °C
Forward Surge Rating 200 Amps, 8.3ms single half sine-wave

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

APPLICATION

This Series has a peak pulse power rating of 1500 watts for One millisecond. It can protect intergrated circuit, hybrids,CMOS, MOS,and other voltage sensitive components in a board range of applications such as telecommunications,power supplies,computer, automotive,and industrial equipment.

NOTES:Forward Voltage (V\_f)@100 amps peak,8.3 msec sine wave equal to 3.5 volts max. (unidirectional only).
For Bidirectional type having V\_WM of 10 Volts and under, The ID leakage current is doubled. For bi-directional part number use C or CA Suffix for types 1.5KE6.8 thru types 1.5KE550 (e.g. 1.5KE6.8C ,1.5KE550CA)

Marking:

Unidirectional - Type Number and Cathode Band
Bidirectional - Type Number Only

1500 Watt
Transient Voltage
Suppressors
6.8V to 550 Volts

DO-201AE

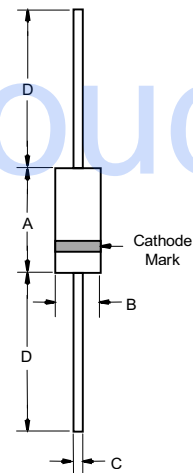


Table with 6 columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), NOTE. Rows A, B, C, D.

RATING AND CHARACTERISTIC CURVES

1.5KE SERIES



Micro Commercial Components



Fig. 1-PEAK PULSE POWER RATING CURVE

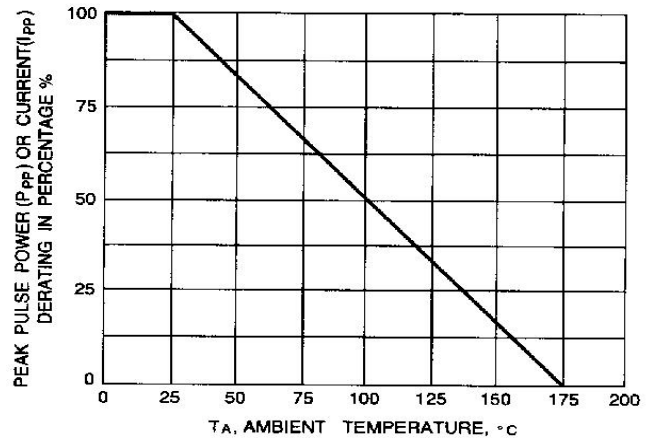


Fig. 2-PULSE DERATING CURVE

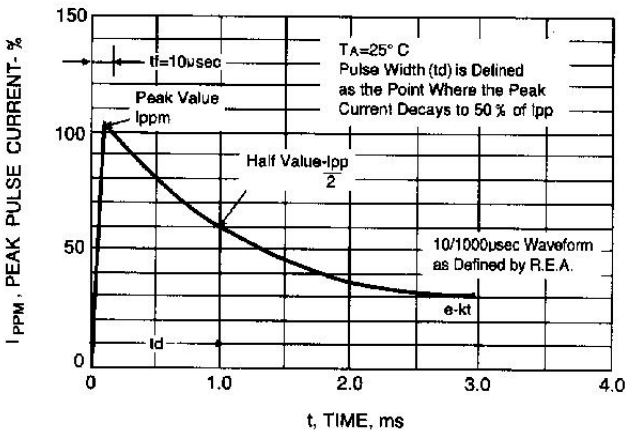


Fig. 3-PULSE WAVEFORM

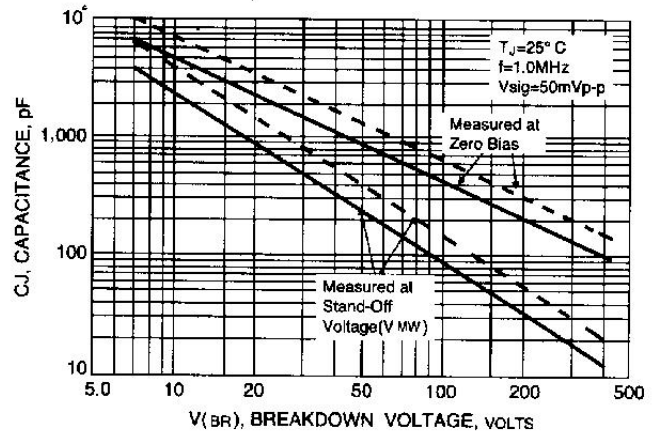


Fig. 4-TYPICAL JUNCTION CAPACITANCE



Fig. 5-STEADY STATE POWER DERATING CURVE

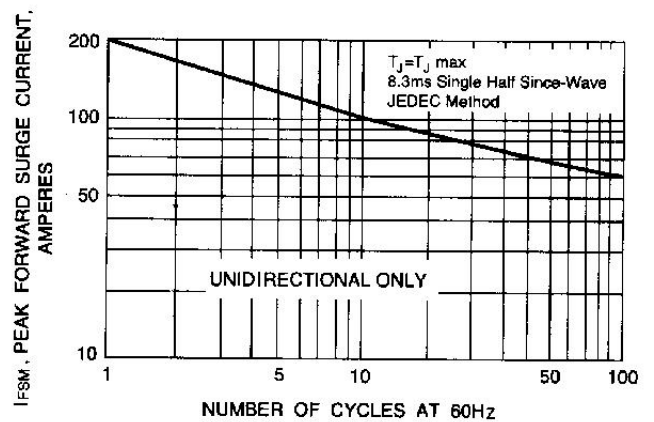


Fig. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL

# 1.5KE6.8(C)(A)~1.5KE550(C)(A)

| MCC PART NUMBER |            | REVERSE STAND- OFF VOLTAGE $V_{RWM}(V)$ | BREAKDOWN VOLTAGE $V_{BR}(V)$ MIN. @ $I_T$ | BREAKDOWN VOLTAGE $V_{BR}(V)$ MAX. @ $I_T$ | TEST CURRENT $I_T$ (mA) | MAXIMUM CLAMPING VOLTAGE @ $I_{pp}$ $V_C(V)$ | PEAK PULSE CURRENT $I_{pp}$ (A) | REVERSE LEAKAGE @ $V_{RWM}$ $I_R(\mu A)$ |
|-----------------|------------|---|--|--|-------------------------|--|---------------------------------|--|
| UNI- POLAR      | BI-POLAR   |   |  |  |                         |  |                                 |  |
| 1.5KE6.8A       | 1.5KE6.8CA | 5.80                                    | 6.45                                       | 7.14                                       | 10                      | 10.5   | 144.8                           | 1000                                     |
| 1.5KE7.5A       | 1.5KE7.5CA | 6.40                                    | 7.13                                       | 7.88                                       | 10                      | 11.3   | 134.5                           | 500                                      |
| 1.5KE8.2A       | 1.5KE8.2CA | 7.02                                    | 7.79                                       | 8.61                                       | 10                      | 12.1   | 125.6                           | 200                                      |
| 1.5KE9.1A       | 1.5KE9.1CA | 7.78                                    | 8.65                                       | 9.50                                       | 1                       | 13.4   | 113.4                           | 50                                       |
| 1.5KE10A        | 1.5KE10CA  | 8.55                                    | 9.50                                       | 10.50                                      | 1                       | 14.5   | 104.8                           | 10                                       |
| 1.5KE11A        | 1.5KE11CA  | 9.40                                    | 10.50                                      | 11.60                                      | 1                       | 15.6   | 97.4                            | 5  |
| 1.5KE12A        | 1.5KE12CA  | 10.20                                   | 11.40                                      | 12.60                                      | 1                       | 16.7   | 91.0                            | 5  |
| 1.5KE13A        | 1.5KE13CA  | 11.10                                   | 12.40                                      | 13.70                                      | 1                       | 18.2   | 83.5                            | 5  |
| 1.5KE15A        | 1.5KE15CA  | 12.80                                   | 14.30                                      | 15.80                                      | 1                       | 21.2   | 71.7                            | 5  |
| 1.5KE16A        | 1.5KE16CA  | 13.60                                   | 15.20                                      | 16.80                                      | 1                       | 22.5   | 67.6                            | 5  |
| 1.5KE18A        | 1.5KE18CA  | 15.30                                   | 17.10                                      | 18.90                                      | 1                       | 25.2   | 60.3                            | 5  |
| 1.5KE20A        | 1.5KE20CA  | 17.10                                   | 19.00                                      | 21.00                                      | 1                       | 27.7   | 54.9                            | 5  |
| 1.5KE22A        | 1.5KE22CA  | 18.80                                   | 20.90                                      | 23.10                                      | 1                       | 30.6   | 49.7                            | 5  |
| 1.5KE24A        | 1.5KE24CA  | 20.50                                   | 22.80                                      | 25.20                                      | 1                       | 33.2   | 45.8                            | 5  |
| 1.5KE27A        | 1.5KE27CA  | 23.10                                   | 25.70                                      | 28.40                                      | 1                       | 37.5   | 40.5                            | 5  |
| 1.5KE30A        | 1.5KE30CA  | 25.60                                   | 28.50                                      | 31.50                                      | 1                       | 41.4   | 36.7                            | 5  |
| 1.5KE33A        | 1.5KE33CA  | 28.20                                   | 31.40                                      | 34.70                                      | 1                       | 45.7   | 33.3                            | 5  |
| 1.5KE36A        | 1.5KE36CA  | 30.80                                   | 34.20                                      | 37.80                                      | 1                       | 49.9   | 30.5                            | 5  |
| 1.5KE39A        | 1.5KE39CA  | 33.30                                   | 37.10                                      | 41.00                                      | 1                       | 53.9   | 28.2                            | 5  |
| 1.5KE43A        | 1.5KE43CA  | 36.80                                   | 40.90                                      | 45.20                                      | 1                       | 59.3   | 25.6                            | 5  |
| 1.5KE47A        | 1.5KE47CA  | 40.20                                   | 44.70                                      | 49.40                                      | 1                       | 64.8   | 23.5                            | 5  |
| 1.5KE51A        | 1.5KE51CA  | 43.60                                   | 48.50                                      | 53.60                                      | 1                       | 70.1   | 21.7                            | 5  |
| 1.5KE56A        | 1.5KE56CA  | 47.80                                   | 53.20                                      | 58.80                                      | 1                       | 77.0   | 19.7                            | 5  |
| 1.5KE62A        | 1.5KE62CA  | 53.00                                   | 58.90                                      | 65.10                                      | 1                       | 85.0   | 17.9                            | 5  |
| 1.5KE68A        | 1.5KE68CA  | 58.10                                   | 64.60                                      | 71.40                                      | 1                       | 92.0   | 16.5                            | 5  |
| 1.5KE75A        | 1.5KE75CA  | 64.10                                   | 71.30                                      | 78.80                                      | 1                       | 103.0  | 14.8                            | 5  |
| 1.5KE82A        | 1.5KE82CA  | 70.10                                   | 77.90                                      | 86.10                                      | 1                       | 113.0  | 13.5                            | 5  |
| 1.5KE91A        | 1.5KE91CA  | 77.80                                   | 86.50                                      | 95.50                                      | 1                       | 125.0  | 12.2                            | 5  |
| 1.5KE100A       | 1.5KE100CA | 85.50                                   | 95.00                                      | 105.00                                     | 1                       | 137.0  | 11.1                            | 5  |
| 1.5KE110A       | 1.5KE110CA | 94.00                                   | 105.00                                     | 116.00                                     | 1                       | 152.0  | 10.0                            | 5  |
| 1.5KE120A       | 1.5KE120CA | 102.00                                  | 114.00                                     | 126.00                                     | 1                       | 165.0  | 9.2                             | 5  |
| 1.5KE130A       | 1.5KE130CA | 111.00                                  | 124.00                                     | 137.00                                     | 1                       | 179.0  | 8.5                             | 5  |
| 1.5KE150A       | 1.5KE150CA | 128.00                                  | 143.00                                     | 158.00                                     | 1                       | 207.0  | 7.3                             | 5  |
| 1.5KE160A       | 1.5KE160CA | 136.00                                  | 152.00                                     | 168.00                                     | 1                       | 219.0  | 6.9                             | 5  |
| 1.5KE170A       | 1.5KE170CA | 145.00                                  | 162.00                                     | 179.00                                     | 1                       | 234.0  | 6.5                             | 5  |
| 1.5KE180A       | 1.5KE180CA | 154.00                                  | 171.00                                     | 189.00                                     | 1                       | 246.0  | 6.2                             | 5  |
| 1.5KE200A       | 1.5KE200CA | 171.00                                  | 190.00                                     | 210.00                                     | 1                       | 274.0  | 5.5                             | 5  |
| 1.5KE220A       | 1.5KE220CA | 185.00                                  | 209.00                                     | 231.00                                     | 1                       | 328.0  | 4.6                             | 5  |
| 1.5KE250A       | 1.5KE250CA | 214.00                                  | 237.00                                     | 263.00                                     | 1                       | 344.0  | 4.4                             | 5  |
| 1.5KE300A       | 1.5KE300CA | 256.00                                  | 285.00                                     | 315.00                                     | 1                       | 414.0  | 3.7                             | 5  |
| 1.5KE350A       | 1.5KE350CA | 300.00                                  | 332.00                                     | 368.00                                     | 1                       | 482.0  | 3.2                             | 5  |
| 1.5KE400A       | 1.5KE400CA | 342.00                                  | 380.00                                     | 420.00                                     | 1                       | 548.0  | 2.8                             | 5  |
| 1.5KE440A       | 1.5KE440CA | 376.00                                  | 418.00                                     | 462.00                                     | 1                       | 602.0  | 2.5                             | 5  |
| 1.5KE480A       | 1.5KE480CA | 408.00                                  | 456.00                                     | 504.00                                     | 1                       | 658.0  | 2.3                             | 5  |
| 1.5KE510A       | 1.5KE510CA | 434.00                                  | 485.00                                     | 535.00                                     | 1                       | 698.0  | 2.1                             | 5  |
| 1.5KE530A       | 1.5KE530CA | 450.00                                  | 503.50                                     | 556.50                                     | 1                       | 725.0  | 2.1                             | 5  |
| 1.5KE540A       | 1.5KE540CA | 459.00                                  | 513.00                                     | 567.00                                     | 1                       | 740.0  | 2.0                             | 5  |
| 1.5KE550A       | 1.5KE550CA | 467.00                                  | 522.50                                     | 577.50                                     | 1                       | 760.0  | 2.0                             | 5  |

For bidirectional type having  $V_{rwm}$  of 10 volts and less, the IR limit is double.

For parts without A , the VBR is  $\pm 10\%$

**Ordering Information :**

| Device         | Packing                        |
|----------------|--------------------------------|
| Part Number-TP | Tape&Reel: 1.2Kpcs/Reel        |
| Part Number-AP | Ammo Packing: 1.2Kpcs/Ammo Box |
| Part Number-BP | Bulk: 12Kpcs/Carton            |

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