



Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

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

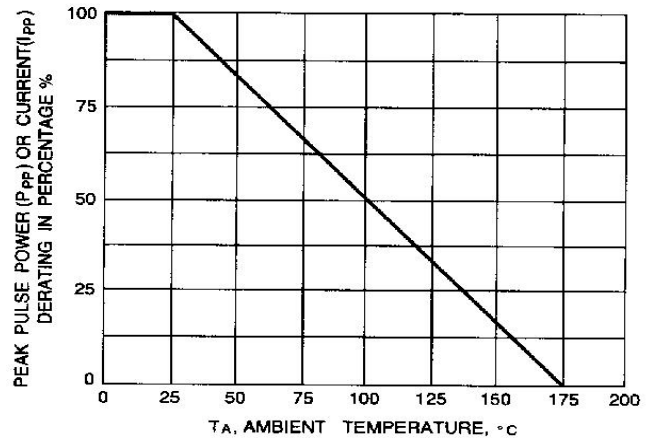


Fig. 2-PULSE DERATING CURVE

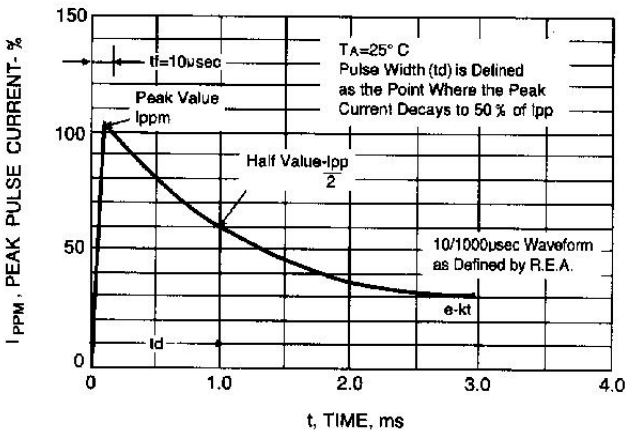


Fig. 3-PULSE WAVEFORM

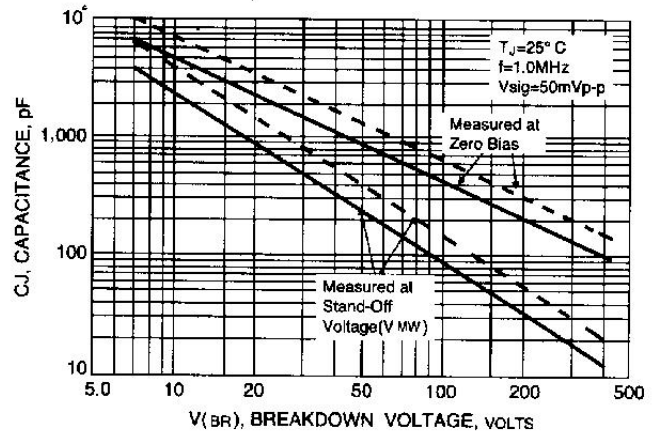


Fig. 4-TYPICAL JUNCTION CAPACITANCE



Fig. 5-STEADY STATE POWER DERATING CURVE

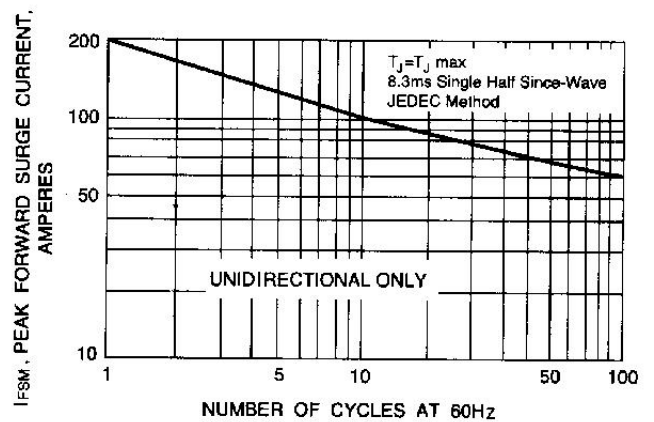


Fig. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL

# 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            |

**\*\*\*IMPORTANT NOTICE\*\*\***

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*LIFE SUPPORT\*\*\***

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.