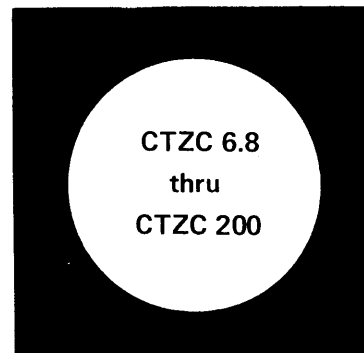
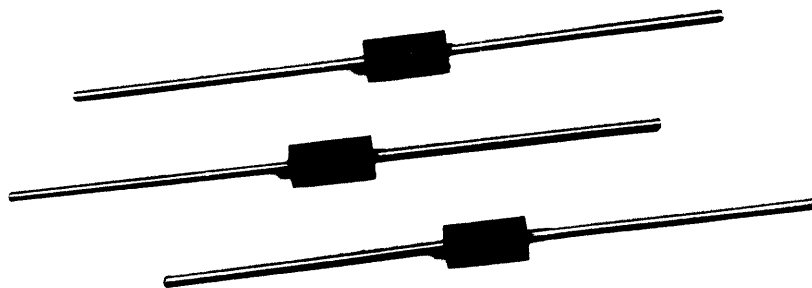


# A.C. TRANSIENT SUPPRESSION



## FEATURES

- 1200 WATTS PEAK POWER
- 5 WATTS @ 75°C AMBIENT
- AVALANCHE SURGE RATED
- LOW SERIES RESISTANCE
- COLD CASE DESIGN (MOLDED)
- HIGH TEMPERATURE OPERATION
- SPECIAL MATCHING AVAILABLE
- FAIL SHORT CIRCUIT
- FAST RESPONSE

Semicon CTZC A.C. transient suppressors are double diffused voltage regulator elements series connected back to back in a single package for A.C. clipping or transient suppression circuit functions. Special attention has been given to thermal transfer properties and to low series resistance to assure reliable operation under transient overload stress. They are inherently fast response and have a short circuit failure mode under sustained overload stress.

### Maximum Temperatures

Ambient Storage and Operating Range  
Lead Temperature (For soldering 1/16 inch from case for 10 sec.)

Tstg, TA -65°C to +175°C  
(Note 1) 230°C

### Maximum Power

Peak Power Dissipation (1.0 msec pulse width, TA = 25°C)  
DC Power Dissipation (TA = 75°C)

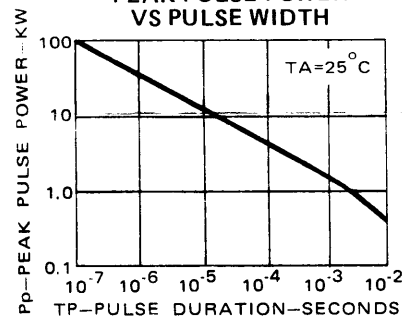
Pp 1200 Watts  
Pm 5.0 Watts

### Maximum Currents

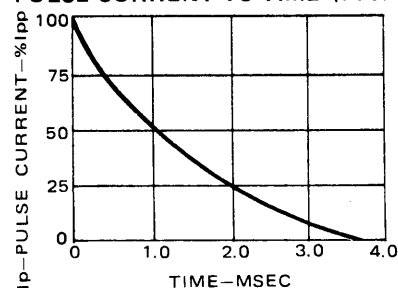
Maximum Pulse Current

Ipp See Page 2  
(Note 2)

MAXIMUM ALLOWABLE (FIG. 1)  
PEAK PULSE POWER  
VS PULSE WIDTH



PULSE CURRENT VS TIME (FIG. 2)



### Notes.

- (1) Exceeding these ratings may impair operation of the semiconductor device.
- (2) The applied current pulse is as shown in the "Pulse Current vs Time" plot. Maximum Rate of Application is 2 pulses per minute.

**Semicon**  
INC.



**AURIEMA GMBH**

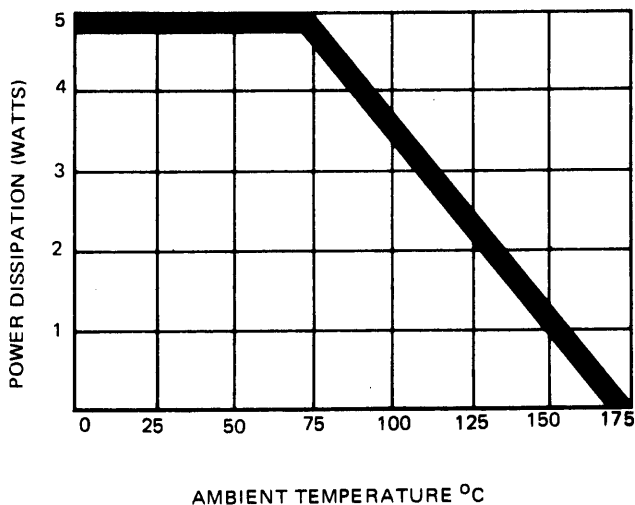
71 HEILBRONN, UHDESTASSE 33  
TELEFON 07131 / 5 30 66 · TELEX 07 28 639

## Ratings and Specifications

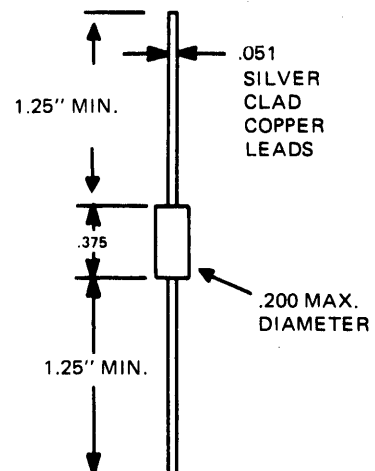
| Semicon Part Number | $V_Z @ I_{ZT}$ (Volts) | Dynamic Impedance $Z_{ZT} @ I_{ZT}$ |               | $I_Z$ (max.) d.c. mA | $I_R @ 90\%$ Minimum $V_Z$ $\mu A$ | Peak Reverse Pulse Current (Fig. 2) $I_{PP}$ (Amps) | Typical Zener Voltage Temp. Coeff. $\%/^{\circ}C$ |
|---------------------|------------------------|-------------------------------------|---------------|----------------------|------------------------------------|-----------------------------------------------------|---------------------------------------------------|
|                     |                        | $Z_{ZT}$ Ohms                       | $I_{ZT}$ (mA) |                      |                                    |                                                     |                                                   |
| CTZC 6.8            | 6.8                    | 1.0                                 | 175           | 735                  | 1000                               | 147.0                                               | .040                                              |
| CTZC 7.5            | 7.5                    | 1.5                                 | 175           | 666                  | 500                                | 133.0                                               | .045                                              |
| CTZC 8.2            | 8.2                    | 1.5                                 | 150           | 609                  | 200                                | 122.0                                               | .048                                              |
| CTZC 9.1            | 9.1                    | 2.0                                 | 150           | 549                  | 50                                 | 110.0                                               | .051                                              |
| CTZC 10             | 10                     | 2.0                                 | 125           | 500                  | 20                                 | 100.0                                               | .055                                              |
| CTZC 11             | 11                     | 2.5                                 | 125           | 454                  | 10                                 | 91.0                                                | .060                                              |
| CTZC 12             | 12                     | 2.5                                 | 100           | 416                  | 2                                  | 83.3                                                | .065                                              |
| CTZC 13             | 13                     | 2.5                                 | 100           | 384                  | 2                                  | 77.0                                                | .065                                              |
| CTZC 14             | 14                     | 2.5                                 | 100           | 357                  | 2                                  | 71.5                                                | .070                                              |
| CTZC 15             | 15                     | 2.5                                 | 75            | 333                  | 2                                  | 66.7                                                | .070                                              |
| CTZC 17             | 17                     | 2.5                                 | 70            | 294                  | 2                                  | 58.8                                                | .075                                              |
| CTZC 18             | 18                     | 2.5                                 | 65            | 277                  | 2                                  | 55.5                                                | .075                                              |
| CTZC 19             | 19                     | 3.0                                 | 65            | 263                  | 2                                  | 52.7                                                | .075                                              |
| CTZC 20             | 20                     | 3.0                                 | 65            | 250                  | 2                                  | 50.0                                                | .075                                              |
| CTZC 22             | 22                     | 3.5                                 | 50            | 227                  | 2                                  | 45.4                                                | .080                                              |
| CTZC 24             | 24                     | 3.5                                 | 50            | 208                  | 2                                  | 41.7                                                | .080                                              |
| CTZC 25             | 25                     | 4.0                                 | 50            | 200                  | 2                                  | 40.0                                                | .080                                              |
| CTZC 27             | 27                     | 5.0                                 | 50            | 185                  | 2                                  | 37.1                                                | .085                                              |
| CTZC 30             | 30                     | 8.0                                 | 40            | 166                  | 2                                  | 33.3                                                | .085                                              |
| CTZC 33             | 33                     | 10.0                                | 40            | 151                  | 2                                  | 30.4                                                | .085                                              |
| CTZC 36             | 36                     | 11.0                                | 30            | 138                  | 2                                  | 27.8                                                | .085                                              |
| CTZC 39             | 39                     | 14.0                                | 30            | 128                  | 2                                  | 25.6                                                | .090                                              |
| CTZC 43             | 43                     | 20.0                                | 30            | 116                  | 2                                  | 23.2                                                | .090                                              |
| CTZC 45             | 45                     | 20.0                                | 25            | 111                  | 2                                  | 22.2                                                | .090                                              |
| CTZC 47             | 47                     | 25.0                                | 25            | 106                  | 2                                  | 21.3                                                | .090                                              |
| CTZC 50             | 50                     | 25.0                                | 25            | 100                  | 2                                  | 20.0                                                | .090                                              |
| CTZC 51             | 51                     | 27.0                                | 25            | 98                   | 2                                  | 19.6                                                | .090                                              |
| CTZC 52             | 52                     | 30.0                                | 23            | 96                   | 2                                  | 19.2                                                | .090                                              |
| CTZC 56             | 56                     | 35.0                                | 20            | 89                   | 2                                  | 17.8                                                | .090                                              |
| CTZC 62             | 62                     | 42.0                                | 20            | 80                   | 2                                  | 16.1                                                | .090                                              |
| CTZC 68             | 68                     | 44.0                                | 20            | 73                   | 2                                  | 14.7                                                | .090                                              |
| CTZC 75             | 75                     | 45.0                                | 20            | 66                   | 2                                  | 13.3                                                | .090                                              |
| CTZC 82             | 82                     | 65.0                                | 15            | 60                   | 2                                  | 12.2                                                | .090                                              |
| CTZC 91             | 91                     | 75.0                                | 15            | 54                   | 2                                  | 11.0                                                | .090                                              |
| CTZC 100            | 100                    | 90.0                                | 12            | 50                   | 2                                  | 10.0                                                | .090                                              |
| CTZC 105            | 105                    | 100.0                               | 12            | 47                   | 2                                  | 9.5                                                 | .095                                              |
| CTZC 110            | 110                    | 125.0                               | 12            | 45                   | 2                                  | 9.1                                                 | .095                                              |
| CTZC 120            | 120                    | 170.0                               | 10            | 41                   | 2                                  | 8.3                                                 | .095                                              |
| CTZC 130            | 130                    | 190.0                               | 10            | 38                   | 2                                  | 7.7                                                 | .095                                              |
| CTZC 140            | 140                    | 230.0                               | 8             | 35                   | 2                                  | 7.1                                                 | .095                                              |
| CTZC 150            | 150                    | 330.0                               | 8             | 33                   | 2                                  | 6.7                                                 | .095                                              |
| CTZC 160            | 160                    | 350.0                               | 8             | 31                   | 2                                  | 6.2                                                 | .095                                              |
| CTZC 180            | 180                    | 430.0                               | 5             | 27                   | 2                                  | 5.5                                                 | .095                                              |
| CTZC 200            | 200                    | 480.0                               | 5             | 25                   | 2                                  | 5.0                                                 | .100                                              |

\*Add suffix "A" for 10%, "B" for 5%, "C" for 1%, "D" for 2%, "E" for 3%. No suffix for 20%.

### TEMPERATURE RATING CURVE



### AC PACKAGE



EPOXY MOLDED CASE:  
POLARITY INDICATED BY BAND OR SYMBOL