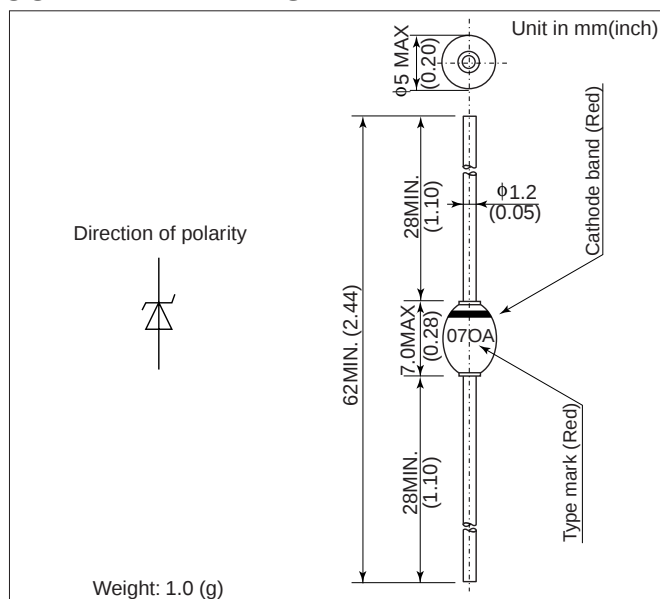


## FEATURES

- For stabilized power supply.
- Diffused-junction. Glass passivated and encapsulated.

## OUTLINE DRAWING



## ABSOLUTE MAXIMUM RATINGS

| Items                                             | Symbols          | Units              | Ratings                         |
|---------------------------------------------------|------------------|--------------------|---------------------------------|
| Permissible Power Dissipation                     | P                | W                  | 2.5                             |
| Operating Junction Temperature                    | $T_j$            | $^{\circ}\text{C}$ | -40 ~ +165                      |
| Storage Temperature                               | $T_{\text{stg}}$ | $^{\circ}\text{C}$ | -40 ~ +165                      |
| Maximum Permissible Current                       | $I_{ZM}$         | mA                 | Refer to characteristics column |
| Non-Repetitive Peak Reverse One-Cycle Dissipation | $P_{RSM}$        | Wp                 | 160                             |

Notes (1) Lead mounting : Lead temperature 280 $^{\circ}\text{C}$  max. to 3.2mm from body for 5sec. max..

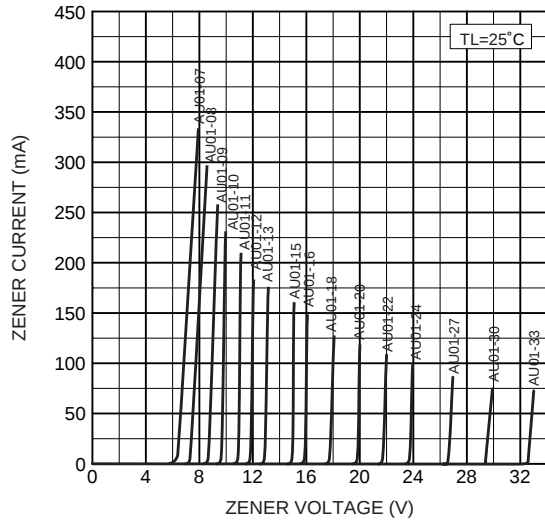
(2) Mechanical strength : Bending 90 $^{\circ}$ ×2 cycles or 180 $^{\circ}$ ×1 cycle, Tensile 3kg, Twist 90 $^{\circ}$ ×1 cycle.

CHARACTERISTICS( $T_L=25^{\circ}\text{C}$ )

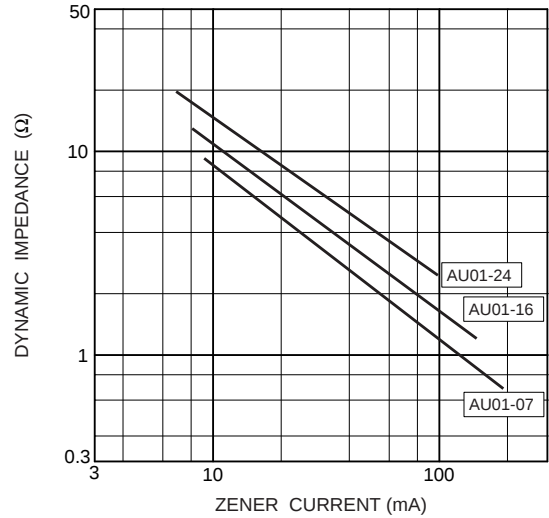
| Type    | Characteristics                  |         |                                                |                                  | Maximum Permissible Current (TL=85°C) (L=10mm) I <sub>ZM</sub> (mA) | Typical Zener Voltage Temperature Coefficient γ <sub>Z</sub> (%/°C) |
|---------|----------------------------------|---------|------------------------------------------------|----------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
|         | Zener Voltage V <sub>Z</sub> (V) |         | Maximum Dynamic Impedance Z <sub>Z</sub> (ohm) | Test Current I <sub>Z</sub> (mA) |                                                                     |                                                                     |
|         | Minimum                          | Maximum |                                                |                                  |                                                                     |                                                                     |
|         |                                  |         |                                                |                                  |                                                                     |                                                                     |
| AU01-07 | 6.2                              | 7.9     | 7                                              | 65                               | 335                                                                 | 0.035                                                               |
| AU01-08 | 7.7                              | 8.7     | 3                                              | 65                               | 300                                                                 | 0.052                                                               |
| AU01-09 | 8.5                              | 9.6     | 3                                              | 65                               | 260                                                                 | 0.062                                                               |
| AU01-10 | 9.4                              | 10.6    | 5                                              | 65                               | 235                                                                 | 0.067                                                               |
| AU01-11 | 10.4                             | 11.6    | 5                                              | 65                               | 210                                                                 | 0.070                                                               |
| AU01-12 | 11.4                             | 12.7    | 8                                              | 65                               | 185                                                                 | 0.074                                                               |
| AU01-13 | 12.4                             | 14.1    | 8                                              | 65                               | 175                                                                 | 0.076                                                               |
| AU01-15 | 13.5                             | 15.6    | 12                                             | 40                               | 162                                                                 | 0.080                                                               |
| AU01-16 | 15.3                             | 17.1    | 12                                             | 40                               | 150                                                                 | 0.082                                                               |
| AU01-18 | 16.8                             | 19.1    | 15                                             | 40                               | 130                                                                 | 0.084                                                               |
| AU01-20 | 18.8                             | 21.2    | 15                                             | 40                               | 120                                                                 | 0.086                                                               |
| AU01-22 | 20.8                             | 23.3    | 15                                             | 40                               | 107                                                                 | 0.087                                                               |
| AU01-24 | 22.7                             | 25.6    | 15                                             | 25                               | 100                                                                 | 0.089                                                               |
| AU01-27 | 25.1                             | 28.9    | 15                                             | 25                               | 87                                                                  | 0.090                                                               |
| AU01-30 | 28.0                             | 32.0    | 15                                             | 25                               | 80                                                                  | 0.091                                                               |
| AU01-33 | 31.0                             | 35.0    | 15                                             | 25                               | 75                                                                  | 0.092                                                               |

# AU01

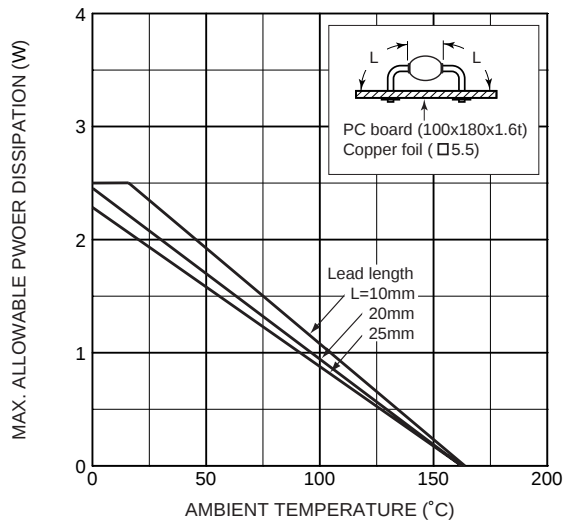
Typical zener characteristics



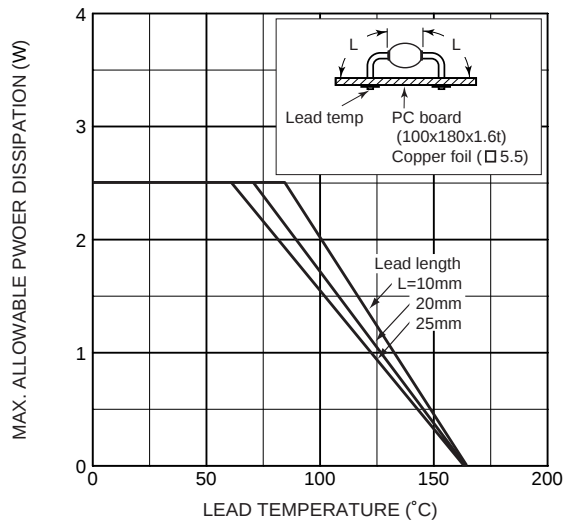
Typical dynamic impedance vs. zener current



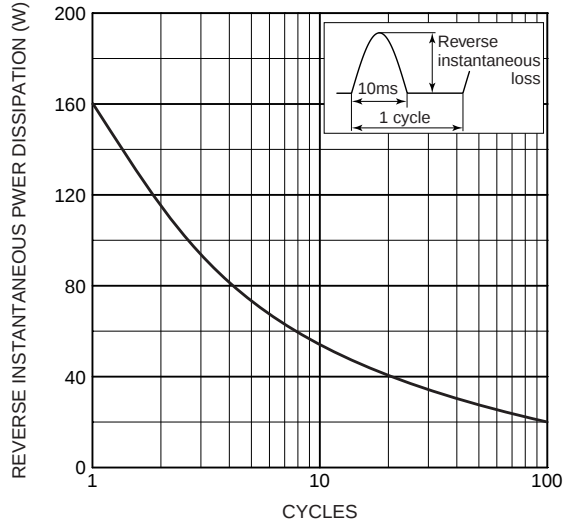
Max. allowable power dissipation vs. ambient temperature



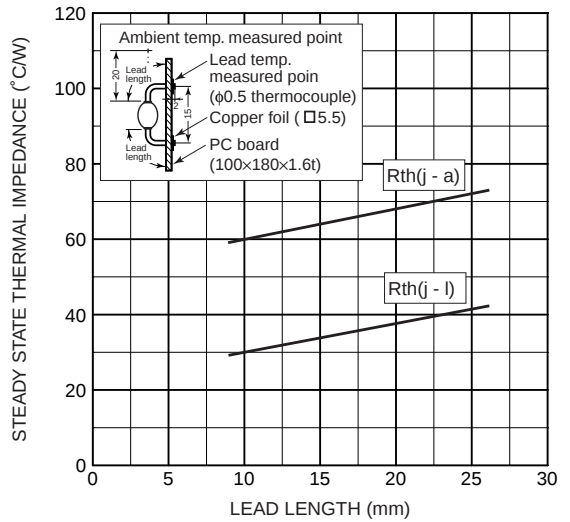
Max. allowable power dissipation vs. lead temperature



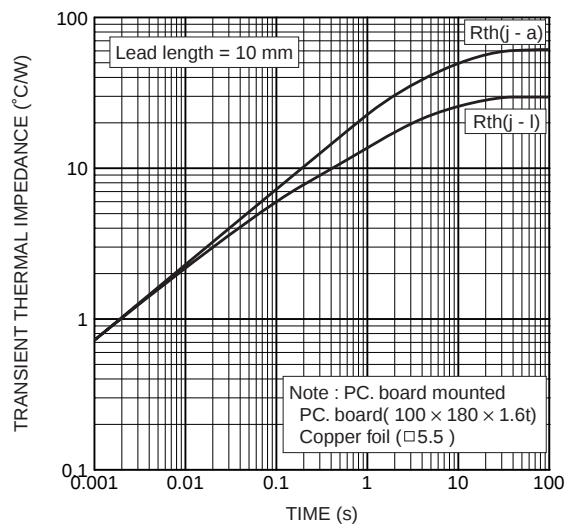
Reverse power characteristic  
(Non-repetitive)



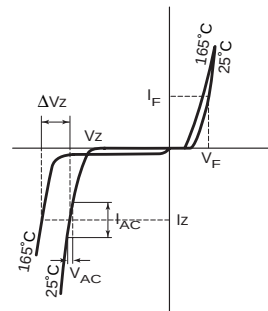
Steady state thermal impedance



## Transient thermal impedance



## Definition of zener characteristics



$\Delta V_z$ : Zener voltage change

$V_z$ : Zener voltage (Test current  $I_z$ )

$I_z$ : Test current

$Z_z$ : Dynamic impedance =  $V_{AC} / I_{AC}$

$I_F$ : Forward current

$V_F$ : Forward voltage drop

$\gamma_z$ : Zener voltage average temperature coefficients

$$= \frac{\Delta V_z}{V_z} \times \frac{1}{(165-25)} \times 100$$

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