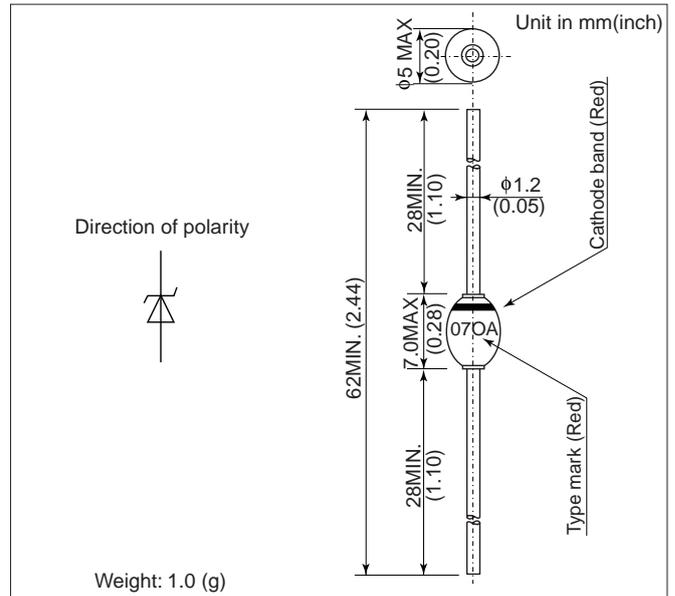


FEATURES

- 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_{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..

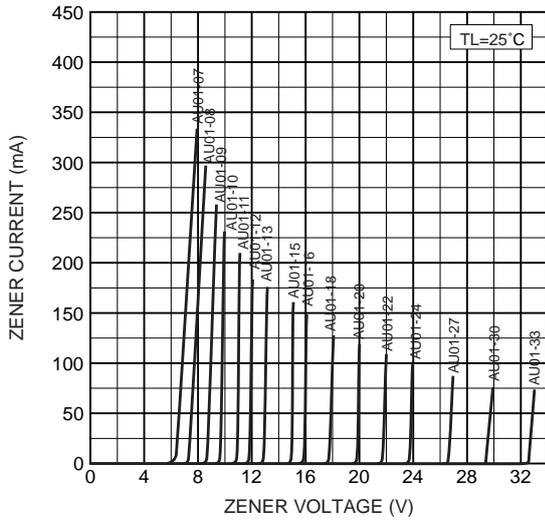
(2) Mechanical strength : Bending 90 $^{\circ}$ ×2 cycles or 180 $^{\circ}$ ×1 cycle, Tensile 3kg, Twist 90 $^{\circ}$ ×1 cycle.

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

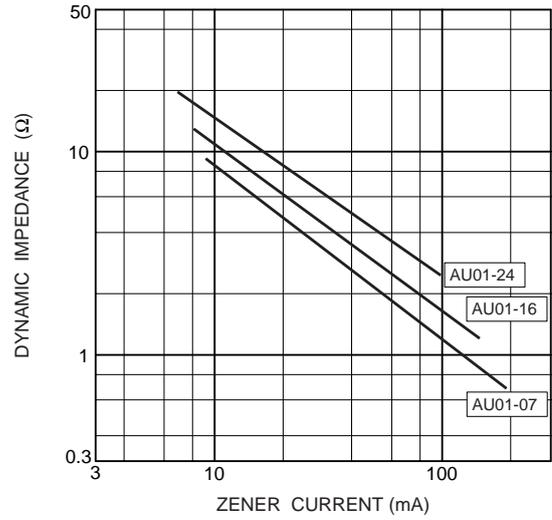
Type	Characteristics				Maximum Permissible Current (TL=85 $^{\circ}\text{C}$) (L=10mm) I_{zM} (mA)	Typical Zener Voltage Temperature Coefficient γ_Z (%/ $^{\circ}\text{C}$)
	Zener Voltage V_Z (V)		Maximum Dynamic Impedance Z_z (ohm)	Test Current I_z (mA)		
	Minimum	Maximum				
AU01-07	6.2	7.9	7	65	335	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

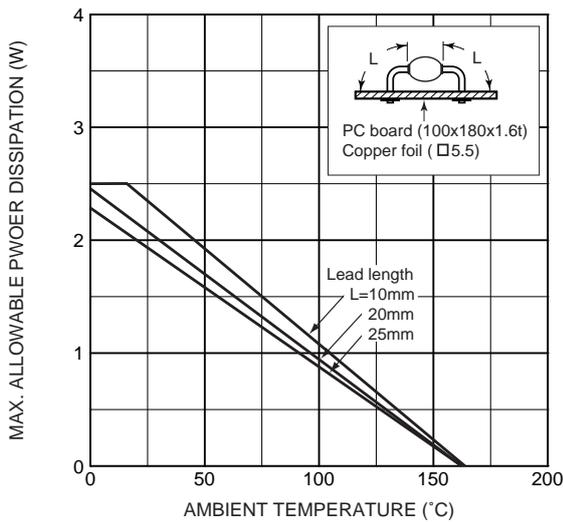
Typical zener characteristics



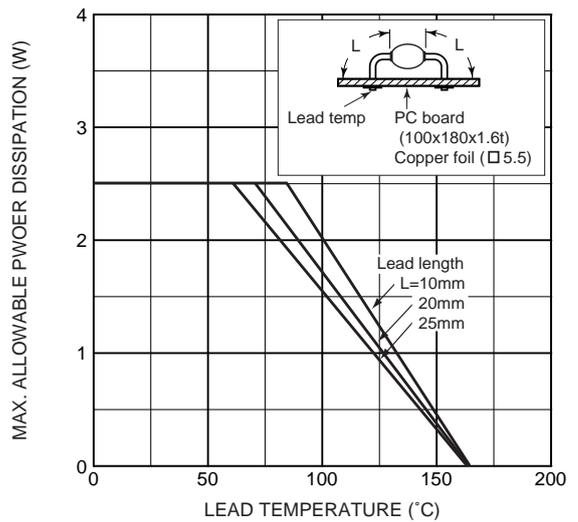
Typical dynamic impedance vs. zener current



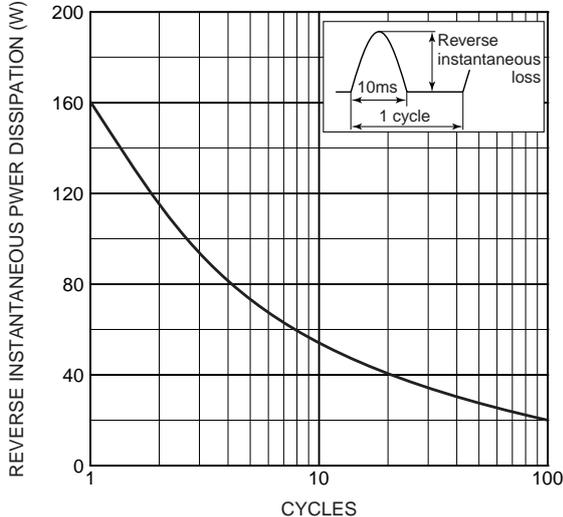
Max. allowable power dissipation vs. ambient temperature



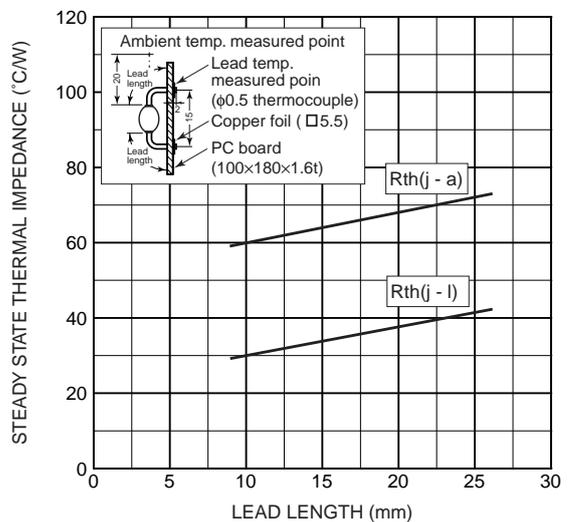
Max. allowable power dissipation vs. lead temperature



Reverse power characteristics (Non-repetitive)

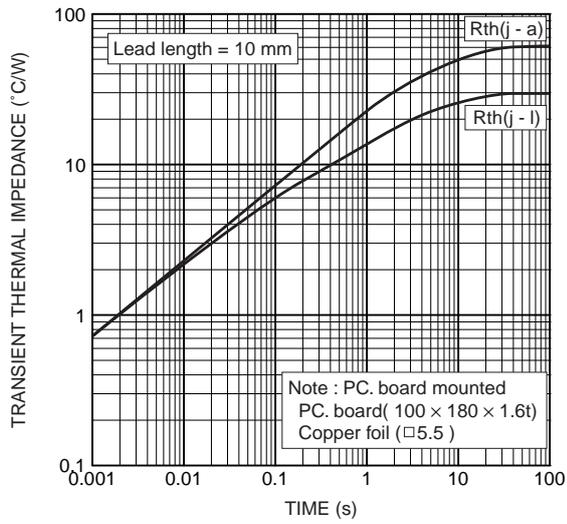


Steady state thermal impedance

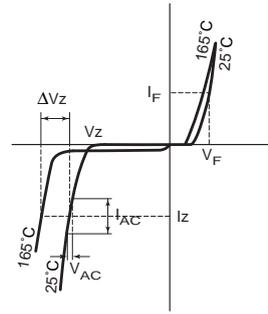


AU01

Transient thermal impedance



Definition of zener characteristics



- ΔV_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
 - γ_Z : Zener voltage average temperature coefficients
- $$= \frac{\Delta V_Z}{V_Z} \times \frac{1}{(165-25)} \times 100$$

Precautions for Safe Use and Notices

If semiconductor devices are handled in inappropriate manner, failures may result. For this reason, be sure to read "Precaution for Use" before use.



This mark indicates an item about which caution is required.



CAUTION

This mark indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and damage to property.



CAUTION

- (1) Regardless of changes in external conditions during use "absolute maximum ratings" should never be exceed in designing electronic circuits that employ semiconductors. In the case of pulse use, furthermore, "safe operating area(SOA)" precautions should be observed.
- (2) Semiconductor devices may experience failures due to accident or unexpected surge voltages. Accordingly, adopt safe design features, such as redundancy or prevention of erroneous action, to avoid extensive damage in the event of a failure.
- (3) In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, life-support-related medical equipment, fuel control equipment and various kinds of safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of user's fail-safe precautions or other arrangement. Or consult Hitachi's sales department staff.

(If a semiconductor device fails, there may be cases in which the semiconductor device, wiring or wiring pattern will emit smoke or cause a fire or in which the semiconductor device will burst)

NOTICES

1. This Datasheet contains the specifications, characteristics(in figures and tables), dimensions and handling notes concerning power semiconductor products (hereinafter called "products") to aid in the selection of suitable products.
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<http://www.hitachi-power-semiconductor-device.co.jp/en/>