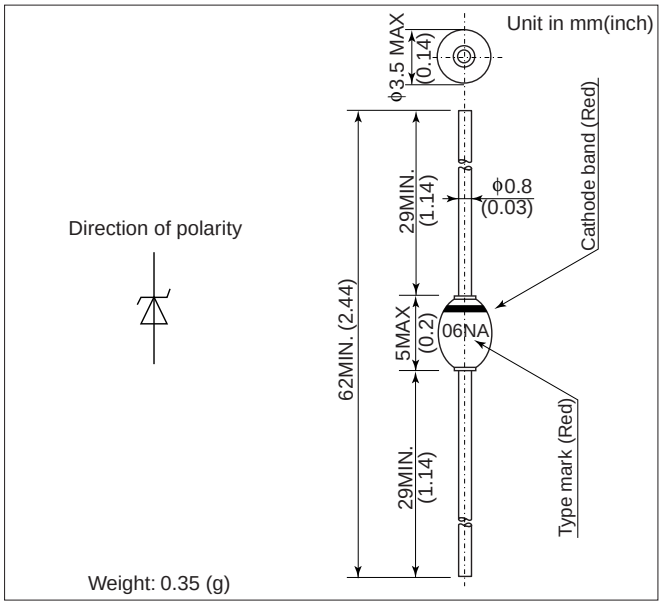
AW01

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	1.0
Operating Junction Temperature	T_j	°C	-40 ~ +150
Storage Temperature	T_{stg}	°C	-40 ~ +150
Maximum Permissible Current	I_{ZM}	mA	Refer to characteristics column
Non-Repetitive Peak Reverse One-Cycle Dissipation	P_{RSM}	Wp	80

Notes (1) Lead mounting : Lead temperature 300°C max. to 3.2mm from body for 5sec. max..
(2) Mechanical strength : Bending 90°×2 cycles or 180°×1 cycle, Tensile 2kg, Twist 90°×1 cycle.

CHARACTERISTICS(T_L=25°C)

Type	Characteristics				Maximum Permissible Current (TL=100°C) (L=10mm) I_{ZM}(mA)	Typical Zener Voltage Temperature Coefficient γ_Z(%/°C)
	Zener Voltage Vz (V)		Maximum Dynamic Impedance Zz (ohm)	Test Current Iz (mA)		
	Minimum	Maximum				
AW01-06	5.2	6.8	9	60	160	0.025
AW01-07	6.2	7.9	7	25	135	0.035
AW01-08	7.7	8.7	3	25	120	0.045
AW01-09	8.5	9.6	3	25	105	0.053
AW01-10	9.4	10.6	5	25	95	0.058
AW01-11	10.4	11.6	5	25	85	0.063
AW01-12	11.4	12.7	8	25	75	0.065
AW01-13	12.4	14.1	8	25	70	0.068
AW01-15	13.5	15.6	12	15	65	0.072
AW01-16	15.3	17.1	12	15	60	0.074
AW01-18	16.8	19.1	15	15	52	0.076
AW01-20	18.8	21.2	15	15	48	0.078
AW01-22	20.8	23.3	15	15	43	0.080
AW01-24	22.7	25.6	15	10	40	0.081
AW01-27	25.1	28.9	15	10	35	0.082
AW01-30	28.0	32.0	15	10	32	0.083
AW01-33	31.0	35.0	15	10	30	0.084

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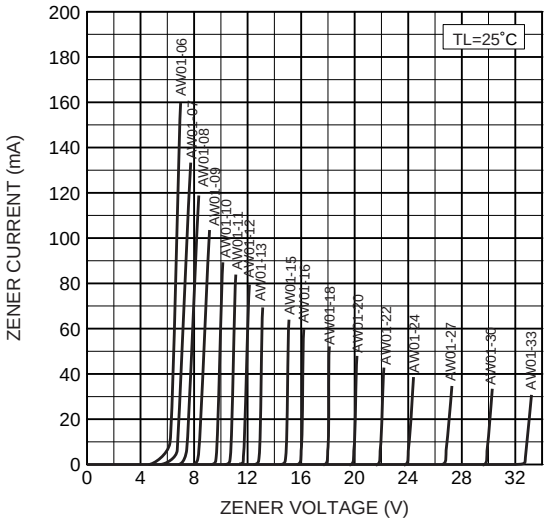
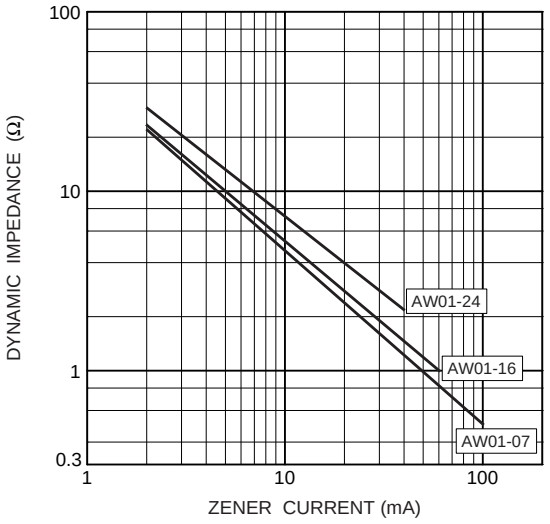
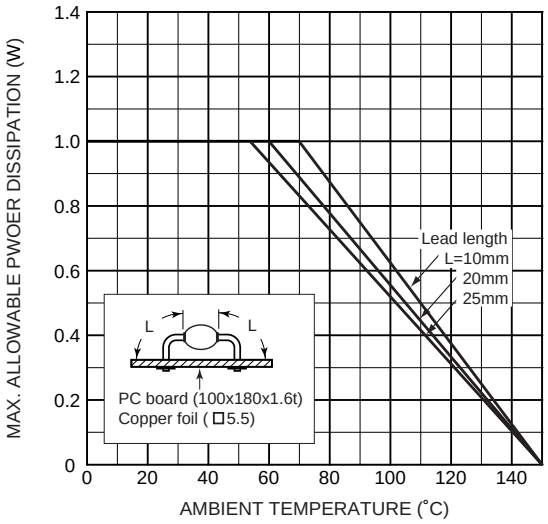
Typical zener characteristics



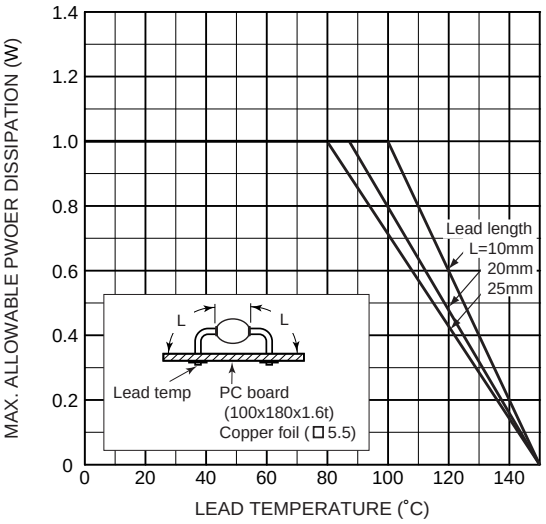
Typical dynamic impedance vs. zener current



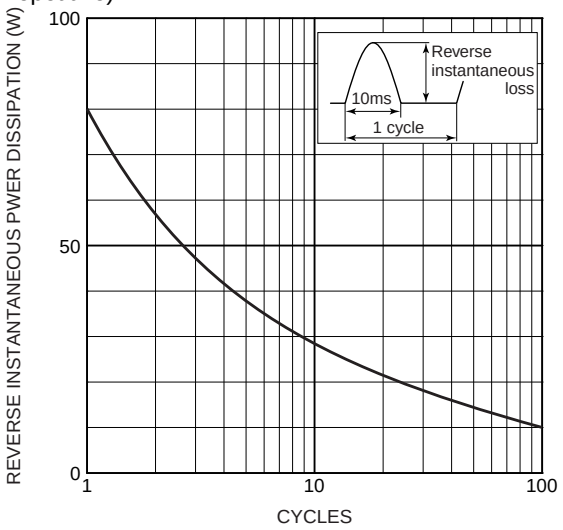
Max. allowable power dissipation vs. ambient temperature



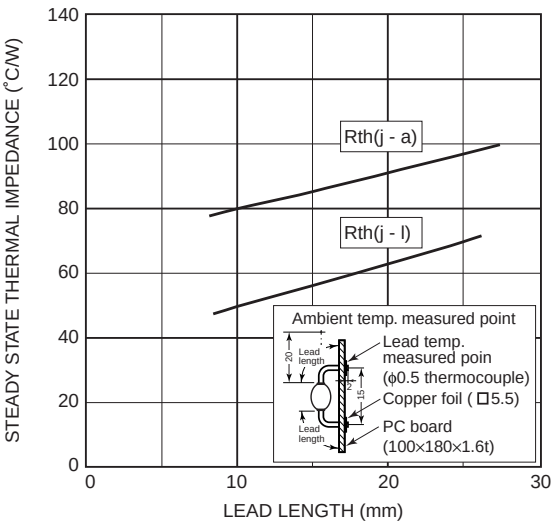
Max. allowable power dissipation vs. lead temperature



Reverse power characteristics
(Non-repetitive)



Steady state thermal impedance



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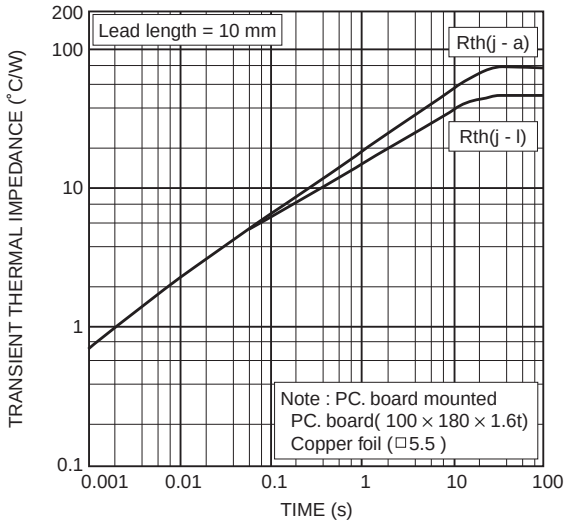
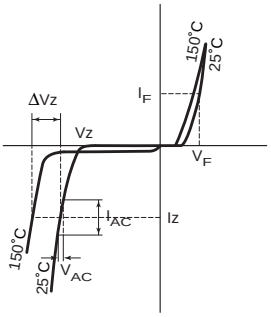
Transient thermal impedance



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
γz :Zener voltage average temperature coefficients

$$= \frac{\Delta Vz}{Vz} \times \frac{1}{(150\text{-}25)} \times 100$$

Precautions for Safe Use and Notices

If semiconductor devices are handled 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.
2. The specifications and dimensions, etc. stated in this Datasheet are subject to change without prior notice to improve products characteristics. Before ordering, purchasers are advised to contact Hitachi’s sales department for the latest version of this Datasheet and specifications.
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http://www.hitachi-power-semiconductor-device.co.jp/en/