

HVK Series Silicon Epitaxial Planar Zener Diodes for Stabilized Power Supply

HITACHI

Rev. 2
Jul. 1994

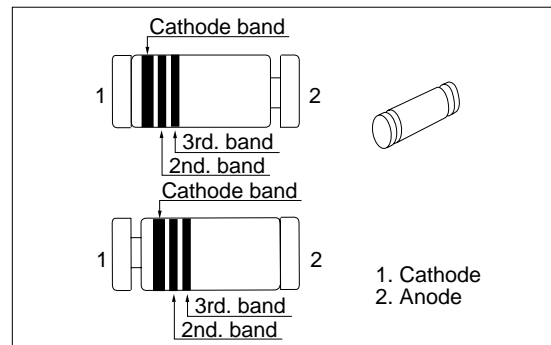
Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW.
- Wide spectrum from 1.9V through 38V of zener voltage provide flexible application.
- LLD Package is suitable for high density surface mounting and high speed assembly.

Ordering Information

| Type No. | Mark | Package Code |
|------------|------------|--------------|
| HVK Series | Color Code | LLD |

Outline



Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Value | Unit |
|----------------------|-----------|-------------|------|
| Power dissipation | p_d^* | 500 | mW |
| Junction temperature | T_j | 175 | °C |
| Storage temperature | T_{stg} | -55 to +175 | °C |

* With P.C. Board.

Electrical Characteristics (Ta = 25°C)

| Type | Grade | Zener Voltage | | Test Condition I_Z (mA) | Reverse Current | | Dynamic Resistance | |
|------|-------|---------------|-----|------------------------------|-----------------|-----------------------------|--------------------|------------------------------|
| | | V_Z (V) * | | | I_R (μA) | Test Condition V_R (V) | r_d (Ω) | Test Condition I_Z (mA) |
| | | Min | Max | | Max | | Max | |
| HVK2 | B | 1.9 | 2.3 | 5 | 5 | 0.5 | 100 | 5 |
| | C | 2.2 | 2.6 | | | | | |
| HVK3 | A | 2.5 | 2.9 | 5 | 5 | 0.5 | 100 | 5 |
| | B | 2.8 | 3.2 | | | | | |
| | C | 3.1 | 3.5 | | | | | |

* Tested with DC.

HZK Series

| Type | Grade | Zener Voltage | | Test Condition I_Z (mA) | Reverse Current | | Dynamic Resistance | |
|-------|-------|---------------|------|------------------------------|------------------|-----------------------------|--------------------|------------------------------|
| | | V_Z (V) * | | | I_R (μ A) | Test Condition V_R (V) | r_d (Ω) | Test Condition I_Z (mA) |
| | | Min | Max | | Max | | Max | |
| HZK4 | A | 3.4 | 3.8 | 5 | 5 | 1.0 | 100 | 5 |
| | B | 3.7 | 4.1 | | | | | |
| | C | 4.0 | 4.4 | | | | | |
| HZK5 | A | 4.3 | 4.7 | 5 | 5 | 1.5 | 100 | 5 |
| | B | 4.6 | 5.0 | | | | | |
| | C | 4.9 | 5.3 | | | | | |
| HZK6 | A | 5.2 | 5.7 | 5 | 5 | 2 | 40 | 5 |
| | B | 5.5 | 6.0 | | | | | |
| | C | 5.8 | 6.4 | | | | | |
| HZK7 | A | 6.3 | 6.9 | 5 | 1 | 3.5 | 15 | 5 |
| | B | 6.7 | 7.3 | | | | | |
| | C | 7.2 | 7.9 | | | | | |
| HZK9 | A | 7.7 | 8.5 | 5 | 1 | 5 | 20 | 5 |
| | B | 8.3 | 9.1 | | | | | |
| | C | 8.9 | 9.7 | | | | | |
| HZK11 | A | 9.5 | 10.3 | 5 | 1 | 7.5 | 25 | 5 |
| | B | 10.2 | 11.1 | | | | | |
| | C | 10.9 | 11.9 | | | | | |
| HZK12 | A | 11.6 | 12.7 | 5 | 1 | 9.5 | 35 | 5 |
| | B | 12.4 | 13.4 | | | | | |
| | C | 13.2 | 14.3 | | | | | |
| HZK15 | | 14.1 | 15.5 | 5 | 1 | 11 | 40 | 5 |
| HZK16 | | 15.3 | 17.1 | 5 | 1 | 12 | 45 | 5 |
| HZK18 | | 16.9 | 19.0 | 5 | 1 | 13 | 55 | 5 |
| HZK20 | | 18.8 | 21.1 | 2 | 1 | 15 | 60 | 2 |
| HZK22 | | 20.9 | 23.3 | 2 | 1 | 17 | 65 | 2 |
| HZK24 | | 22.9 | 25.5 | 2 | 1 | 19 | 70 | 2 |
| HZK27 | | 25.2 | 28.6 | 2 | 1 | 21 | 80 | 2 |
| HZK30 | | 28.2 | 31.6 | 2 | 1 | 23 | 100 | 2 |
| HZK33 | | 31.2 | 34.6 | 2 | 1 | 25 | 120 | 2 |
| HZK36 | | 34.2 | 38.0 | 2 | 1 | 27 | 140 | 2 |

* Tested with DC.

Note: Type No. is as Follows: HZK2B, HZK2C,••• HZK36.

MARK COLOR CODE

| Type | Cathode Band | Second Band | Third Band |
|--------|----------------|--------------|------------|
| HZK2B | Yellow Green | Yellow Ocher | Verdure |
| HZK2C | Yellow Green | Yellow Ocher | Light Blue |
| HZK3A | Yellow Green | Pink | Pink |
| HZK3B | Yellow Green | Pink | Verdure |
| HZK3C | Yellow Green | Pink | Light Blue |
| HZK4A | Yellow Green | Orange | Pink |
| HZK4B | Yellow Green | Orange | Verdure |
| HZK4C | Yellow Green | Orange | Light Blue |
| HZK5A | Yellow Green | Yellow | Pink |
| HZK5B | Yellow Green | Yellow | Verdure |
| HZK5C | Yellow Green | Yellow | Light Blue |
| HZK6A | Yellow Green | Verdure | Pink |
| HZK6B | Yellow Green | Verdure | Verdure |
| HZK6C | Yellow Verdure | Verdure | Light Blue |
| HZK7A | Yellow Green | Yellow Green | Pink |
| HZK7B | Yellow Green | Yellow Green | Verdure |
| HZK7C | Yellow Green | Yellow Green | Light Blue |
| HZK9A | Yellow Green | Purple | Pink |
| HZK9B | Yellow Green | Purple | Verdure |
| HZK9C | Yellow Green | Purple | Light Blue |
| HZK11A | Yellow Green | Light Blue | Pink |
| HZK11B | Yellow Green | Light Blue | Verdure |
| HZK11C | Yellow Green | Light Blue | Light Blue |
| HZK12A | Yellow Green | White | Pink |
| HZK12B | Yellow Green | White | Verdure |
| HZK12C | Yellow Green | White | Light Blue |
| HZK15 | Light Blue | Black | Pink |
| HZK16 | Light Blue | Yellow Ocher | Pink |
| HZK18 | Light Blue | Pink | Pink |
| HZK20 | Light Blue | Orange | Pink |
| HZK22 | Light Blue | Yellow | Pink |
| HZK24 | Light Blue | Verdure | Pink |
| HZK27 | Light Blue | Yellow Green | Pink |
| HZK30 | Light Blue | Purple | Pink |
| HZK33 | Light Blue | Light Blue | Pink |
| HZK36 | Light Blue | White | Pink |

HZK Series

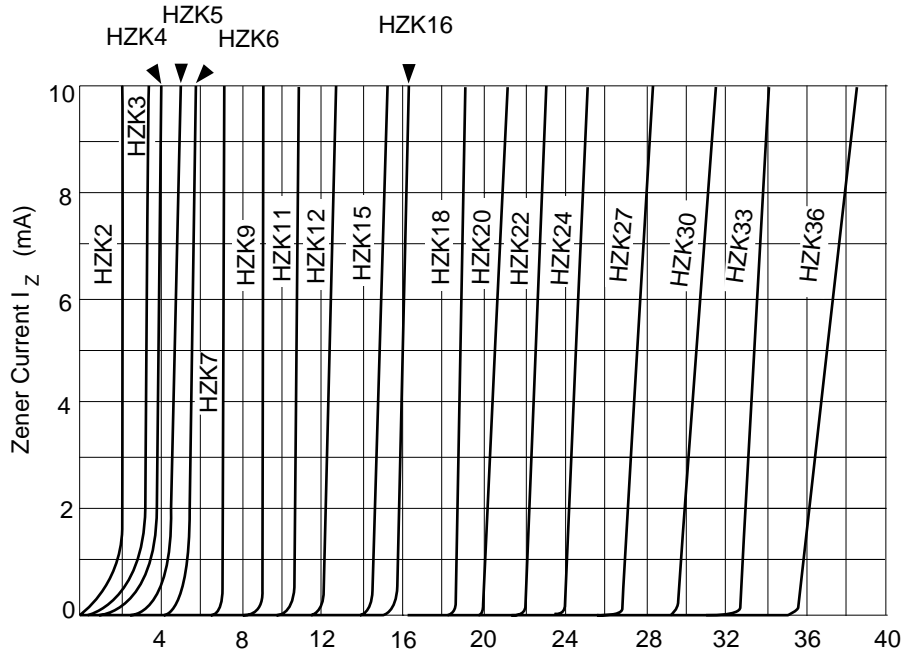


Fig.1 Zener current Vs. Zener voltage

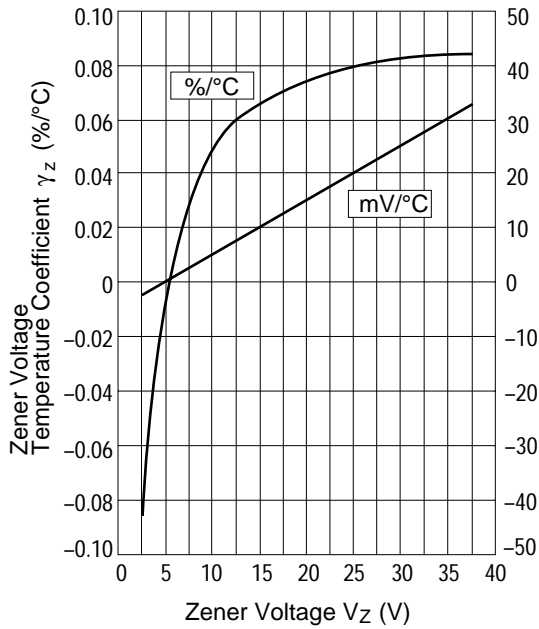


Fig.2 Temperature Coefficient Vs. Zener voltage

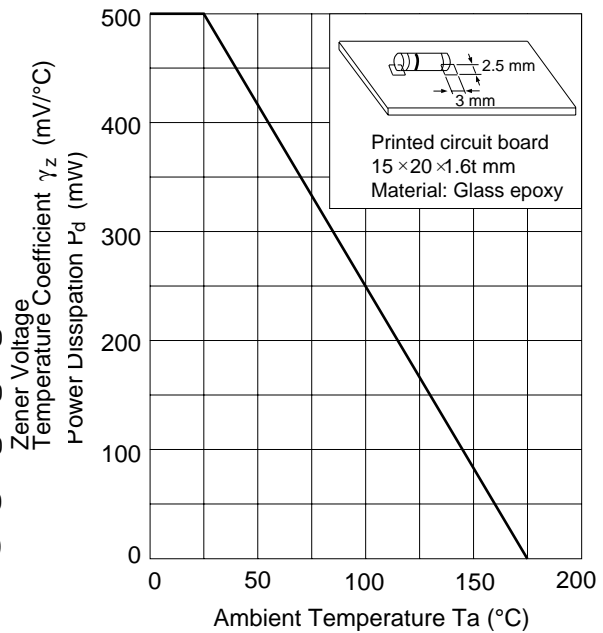
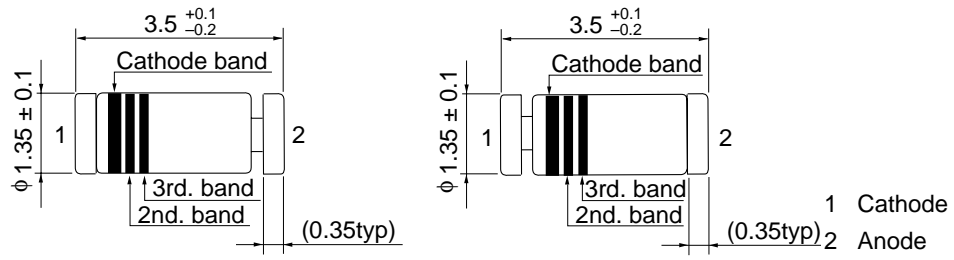


Fig.3 Power Dissipation Vs. Ambient Temperature

Package Dimensions

Unit: mm



() : Reference only

| | |
|--------------|-------|
| HITACHI Code | LLD |
| JEDEC Code | — |
| EIAJ Code | — |
| Weight (g) | 0.027 |