

# HZS-LL Series

Silicon Epitaxial Planar Zener Diode for  
Hard Knee Low Noise

REJ03G0167-0200Z  
(Previous: ADE-208-122A)  
Rev.2.00  
Jan.06.2004

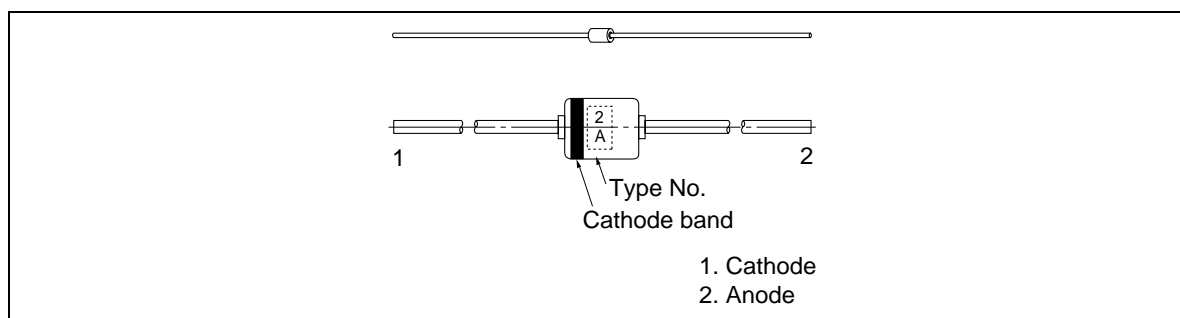
## Features

- $V_Z$ - $I_Z$  characteristics are semilogarithmic linear from  $I_Z = 1\text{nA}$  to  $1\text{mA}$  and have sharper breakdown knees in a low current region, and also lower  $V_Z$  temperature coefficients .
- Low dynamic impedance and low noise in the low current region (approximately 1/10 lower than the current zeners).
- Suitable for 5mm-pitch high speed automatic insertion.

## Ordering Information

Type No.	Mark	Package Code
HZS-LL Series	Type No.	MHD

## Pin Arrangement



## HZS-LL Series

### Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd	250	mW
Junction temperature	Tj	175	°C
Storage temperature	Tstg	−55 to +175	°C

### Electrical Characteristics

(Ta = 25°C)

Type	Grade	V <sub>Z</sub> (V) * <sup>1</sup>		I <sub>Z</sub> (mA)	I <sub>R</sub> (nA)		Z <sub>ZT</sub> (Ω)		Z <sub>ZK</sub> (kΩ)* <sup>2</sup>	ΔV <sub>Z1</sub> (V) * <sup>3</sup>		ΔV <sub>Z2</sub> (V) * <sup>3</sup>	
		Min	Max		Max	V <sub>R</sub> (V)	Max	I <sub>ZT</sub> (mA)	Typ	I <sub>ZK</sub> (μA)	Max	Max	Max
HZS2LL	A	1.6	2.0	0.5	100	0.5	350	0.5	(1.2)	50	0.5	0.6	
	B	1.9	2.3										
	C	2.2	2.6										
HZS3LL	A	2.5	2.9	0.5	100	1.0	360	0.5	(1.2)	50	0.5	0.6	
	B	2.8	3.2										
	C	3.1	3.5										
HZS4LL	A	3.4	3.8	0.5	100	2.0	370	0.5	(1.5)	50	0.5	0.6	
	B	3.7	4.1										
	C	4.0	4.4										
HZS5LL	A	4.3	4.7	0.5	100	3.0	380	0.5	(1.5)	50	0.5	0.6	
	B	4.6	5.0										
	C	4.9	5.3										

Notes: 1. Tested with DC.

2. Reference only.

3.  $\Delta V_{Z1} = V_Z (I_Z = 0.5 \text{ mA}) - V_{Z1} (I_Z = 0.05 \text{ mA})$        $\Delta V_{Z2} = V_{Z1} (I_Z = 0.05 \text{ mA}) - V_{Z2} (I_Z = 0.001 \text{ mA})$

4. Type No. is as follows; HZS2ALL, HZS2BLL, HZS5CLL.

## Main Characteristic

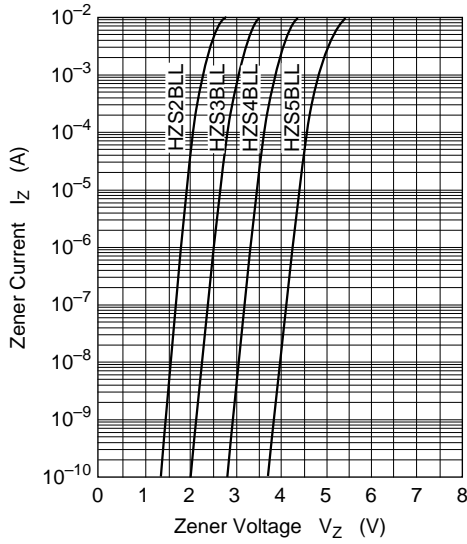


Fig.1 Zener current vs. Zener voltage

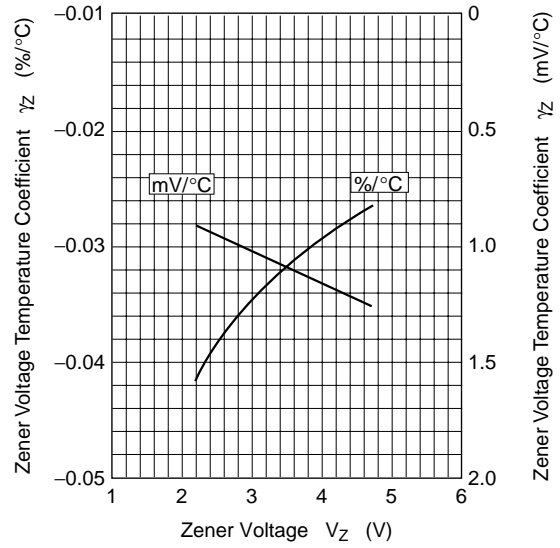


Fig.2 Temperature Coefficient vs. Zener voltage

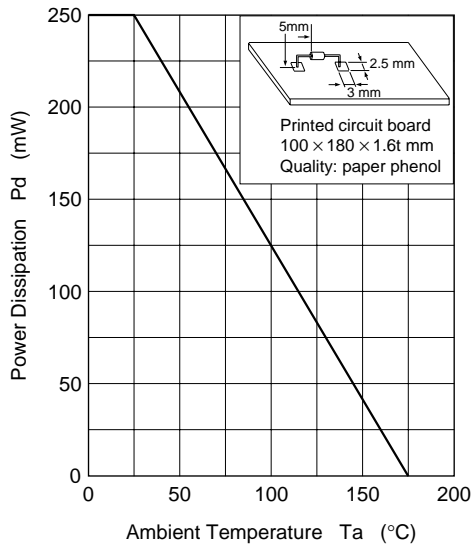
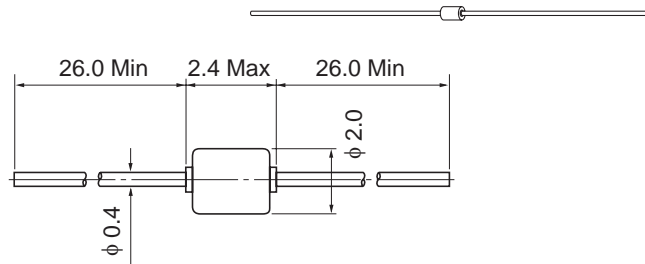


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of January, 2003

Unit: mm



Package Code	MHD
JEDEC	Conforms
JEITA	—
Mass (reference value)	0.084 g

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