HZS-LL Series

Silicon Epitaxial Planar Zener Diodes for Hard Knee Low Noise

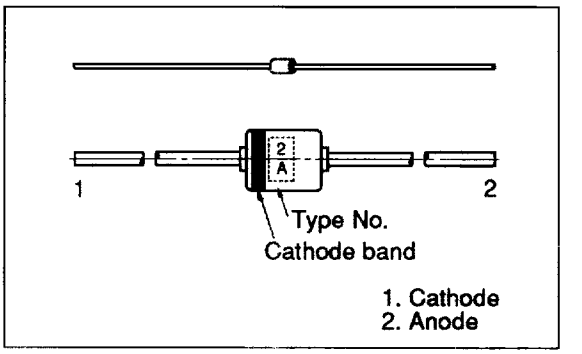
Features

- Vz-Iz characteristics are semilogarithmic linear from I_Z=1nA to 1mA 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

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	P_d	250	mW
Junction temperature	T_j	175	°C
Storage temperature	T_{stg}	-55 to +175	°C

Electrical Characteristics (Ta = 25°C)

		V_Z (V)*			I_R (nA)		Z_{ZT} (Ω)		Z_{ZK}** (kΩ)		***ΔV_{Z1} (V)	***ΔV_{Z2} (V)
Type	Grade	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_{ZT} (mA)	Typ	I_{ZK} (μA)	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									

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Type	Grade	V_Z (V)* Min	Max	I_Z (mA)	I_R (nA) Max	V_R (V)	Z_{ZT} (Ω) Max	I_{ZT} (mA)	Z_{ZK}** (kΩ) Typ	I_{ZK} (μA)	***ΔV_{Z1} (V) Max	***ΔV_{Z2} (V) Max
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									

* Tested with DC.

** Reference only

*** $\Delta V_{Z1} = V_Z$ (I_Z = 0.5 mA) – V_{Z1} (I_Z = 0.05 mA)

*** $\Delta V_{Z2} = V_{Z1}$ (I_Z = 0.05 mA) – V_{Z2} (I_Z = 0.001 mA)

Note: Type No. is as follows; HZS2ALL, HZS2BLL, HZS5CLL.

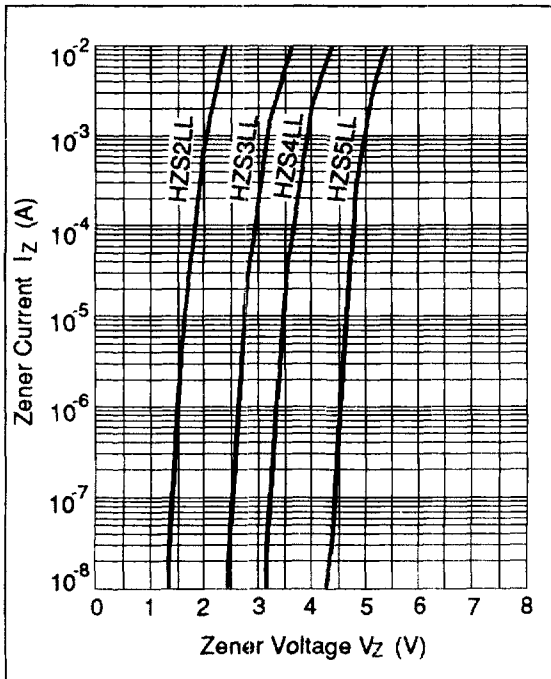

Fig.1 Zener current Vs. Zener voltage

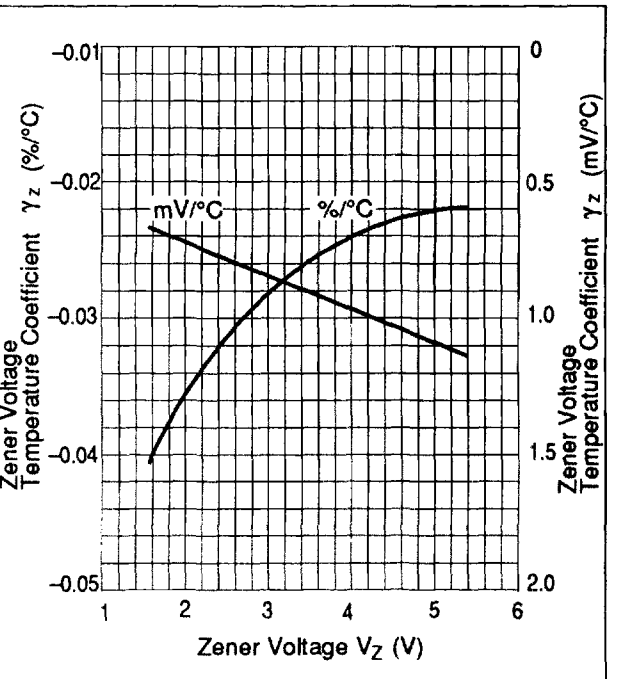

Fig.2 Temperature Coefficient Vs. Zener voltage

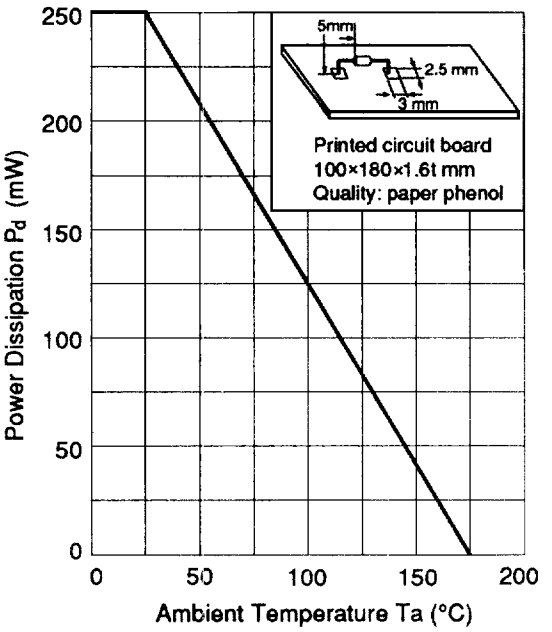

Fig.3 Power Dissipation Vs. Ambient Temperature