

To all our customers

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Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

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Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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# HZM7.5FA

Silicon Epitaxial Planar Zener Diode for Surge Absorb

**RENESAS**

ADE-208-616B (Z)

Rev.2  
Nov. 2002

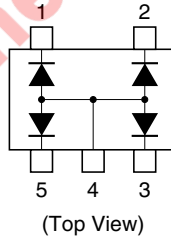
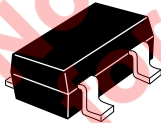
## Features

- HZM7.5FA has four devices, and can absorb surge.
- MPAK-5 Package is suitable for high density surface mounting and high speed assembly.

## Ordering Information

Type No.	Laser Mark	Package Code
HZM7.5FA	75A	MPAK-5

## Pin Arrangement



1. Cathode
2. Cathode
3. Cathode
4. Anode
5. Cathode

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd *	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: Four device total, See Fig.2.

## Electrical Characteristics \*<sup>1</sup>

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Zener voltage	V <sub>z</sub>	7.06	—	7.84	V	I <sub>z</sub> = 5 mA, 40 ms pulse
Reverse current	I <sub>R</sub>	—	—	2	μA	V <sub>R</sub> = 4 V
Capacitance	C	—	—	125	pF	V <sub>R</sub> = 0 V, f = 1 MHz
Dynamic resistance	r <sub>d</sub>	—	—	30	Ω	I <sub>z</sub> = 5 mA
ESD-Capability * <sup>2</sup>	—	30	—	—	kV	C = 150 pF, R = 330 Ω, Both forward and reverse direction 10 pulse

Notes: 1. Per one device.

2. Failure criterion ; I<sub>R</sub> > 2 μA at V<sub>R</sub> = 4 V.

Main Characteristic

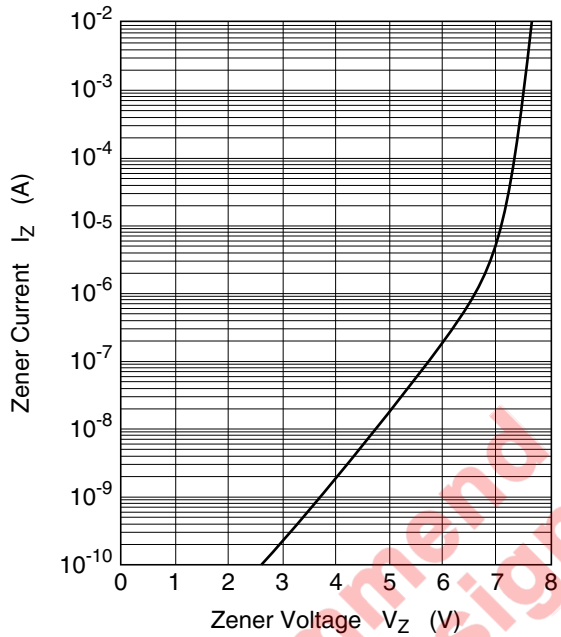


Fig.1 Zener current vs. Zener voltage

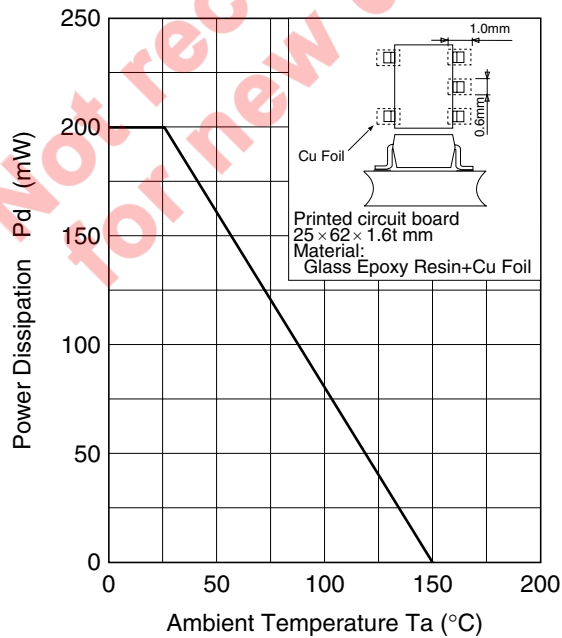


Fig.2 Power Dissipation vs. Ambient Temperature

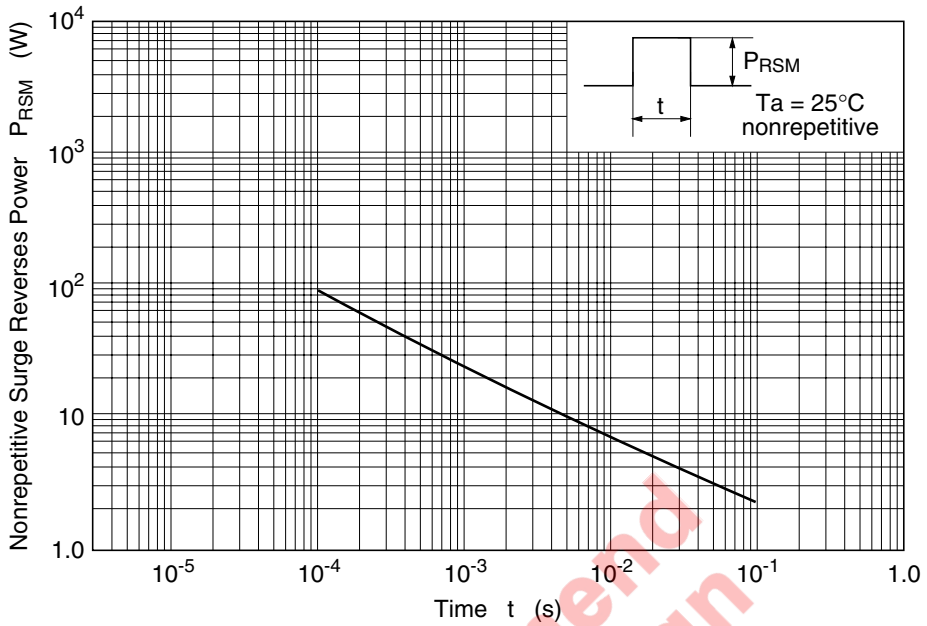


Fig.3 Surge Reverse Power Ratings

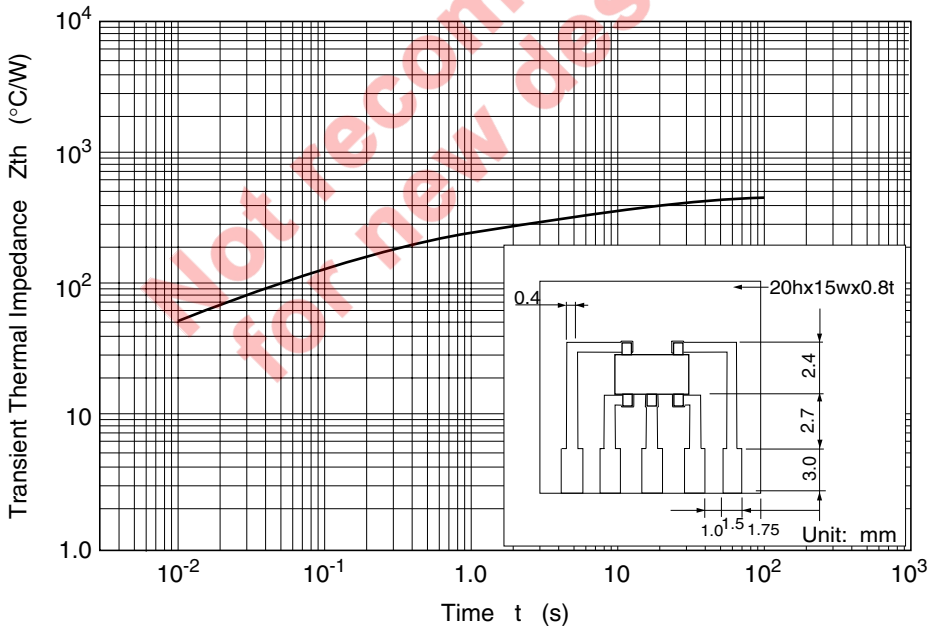
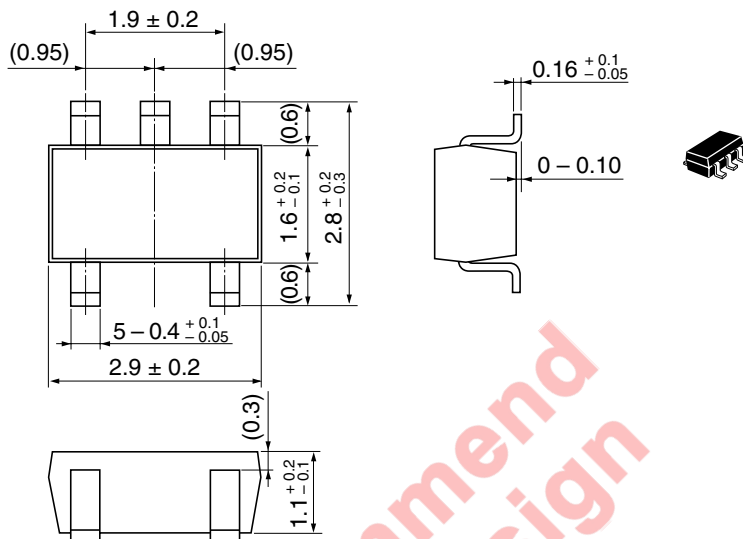


Fig.4 Transient Thermal Impedance

Package Dimensions

As of July, 2002  
Unit: mm



Hitachi Code	MPAK-5
JEDEC	—
JEITA	—
Mass (reference value)	0.013 g

Not recommend  
for new design

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