

HZU-G Series

S Silicon Epitaxial Planar Zener Diode for Surge Absorb

HITACHI

ADE-208-617A (Z)

Rev.1
Nov. 2001

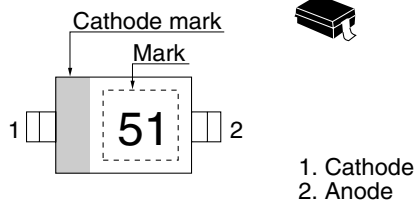
Features

- Zener diode for surge absorb suitable for IEC 1000-4-2 and 5 to 10V products are available.
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

Type No.	Mark	Package Code
HZU-G Series	Let to Mark Code	URP

Pin Arrangement



HZU-G Series

Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Item	Symbol	Value	Unit
Power dissipation	P_d * ¹	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note: 1. See Fig2

Electrical Characteristics

($T_a = 25^\circ\text{C}$)

Type	Zener voltage		Reverse current		Dynamic resistance		ESD-Capability	
	V_z (V) * ¹		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition	— (kV) * ²
	Min	Max	I_z (mA)	Max	V_R (V)	Max	I_z (mA)	Min
HZU5.1G	4.84	5.37	5	5	1.5	130	5	30
HZU5.6G	5.31	5.92	5	5	2.5	80	5	30
HZU6.2G	5.86	6.53	5	2	3.0	50	5	30
HZU6.8G	6.47	7.14	5	2	3.5	30	5	30
HZU7.5G	7.06	7.84	5	2	4.0	30	5	30
HZU8.2G	7.76	8.64	5	2	5.0	30	5	30
HZU9.1G	8.56	9.55	5	2	6.0	30	5	30
HZU10G	9.45	10.55	5	2	7.0	30	5	30
HZU12G	11.42	12.60	5	2	9.0	35	5	30

Notes: 1. Tested with pulse ($P_w = 40$ ms).

2. $C = 150$ pF, $R = 330$ Ω , Both forward and reverse direction 10 pulse
Failure criterion ; According to IR spec

Mark Code

Type	Mark No.	Type	Mark No.
HZU5.1G	51	HZU8.2G	82
HZU5.6G	56	HZU9.1G	91
HZU6.2G	62	HZU10G	10
HZU6.8G	68	HZU12G	12
HZU7.5G	75		

Main Characteristic

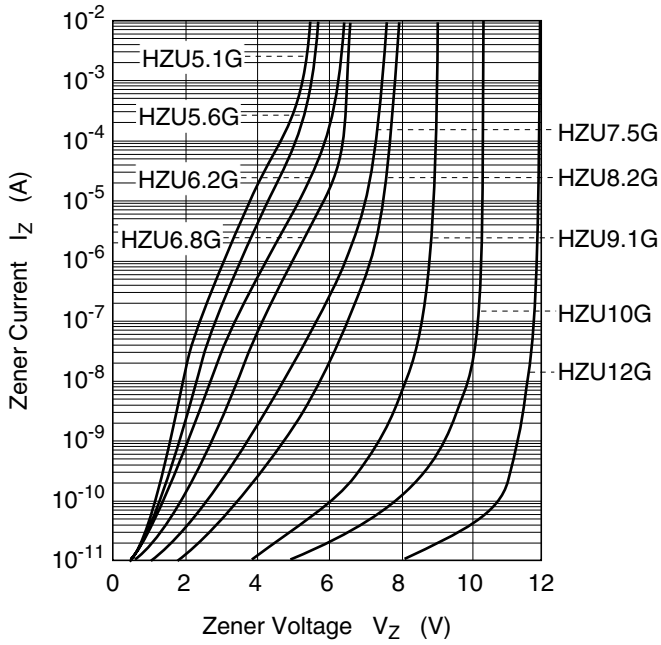


Fig.1 Zener current vs. Zener voltage

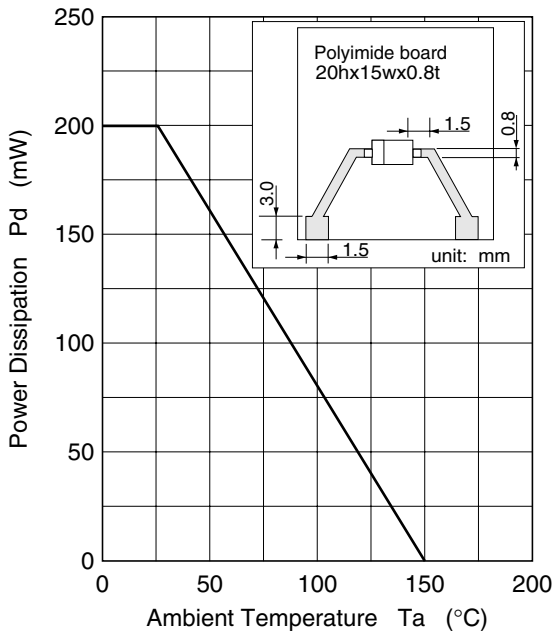
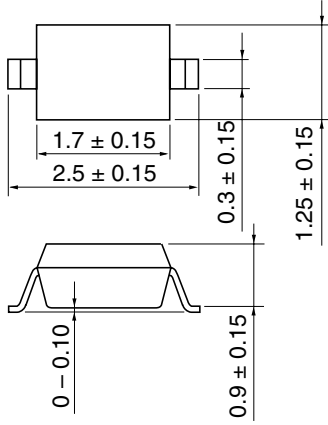


Fig.2 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of July, 2001
Unit: mm



Hitachi Code	URP
JEDEC	—
JEITA	—
Mass (reference value)	0.004 g

Disclaimer

1. Hitachi neither warrants nor grants licenses of any rights of Hitachi's or any third party's patent, copyright, trademark, or other intellectual property rights for information contained in this document. Hitachi bears no responsibility for problems that may arise with third party's rights, including intellectual property rights, in connection with use of the information contained in this document.
2. Products and product specifications may be subject to change without notice. Confirm that you have received the latest product standards or specifications before final design, purchase or use.
3. Hitachi makes every attempt to ensure that its products are of high quality and reliability. However, contact Hitachi's sales office before using the product in an application that demands especially high quality and reliability or where its failure or malfunction may directly threaten human life or cause risk of bodily injury, such as aerospace, aeronautics, nuclear power, combustion control, transportation, traffic, safety equipment or medical equipment for life support.
4. Design your application so that the product is used within the ranges guaranteed by Hitachi particularly for maximum rating, operating supply voltage range, heat radiation characteristics, installation conditions and other characteristics. Hitachi bears no responsibility for failure or damage when used beyond the guaranteed ranges. Even within the guaranteed ranges, consider normally foreseeable failure rates or failure modes in semiconductor devices and employ systemic measures such as fail-safes, so that the equipment incorporating Hitachi product does not cause bodily injury, fire or other consequential damage due to operation of the Hitachi product.
5. This product is not designed to be radiation resistant.
6. No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without written approval from Hitachi.
7. Contact Hitachi's sales office for any questions regarding this document or Hitachi semiconductor products.

Sales Offices

HITACHI

Hitachi, Ltd.

Semiconductor & Integrated Circuits
 Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
 Tel: (03) 3270-2111 Fax: (03) 3270-5109

URL <http://www.hitachisemiconductor.com/>

For further information write to:

Hitachi Semiconductor (America) Inc.
 179 East Tasman Drive
 San Jose, CA 95134
 Tel: <1>(408) 433-1990
 Fax: <1>(408) 433-0223

Hitachi Europe Ltd.
 Electronic Components Group
 Whitebrook Park
 Lower Cookham Road
 Maidenhead
 Berkshire SL6 8YA, United Kingdom
 Tel: <44> (1628) 585000
 Fax: <44> (1628) 585200

Hitachi Europe GmbH
 Electronic Components Group
 Dornacher Straße 3
 D-85622 Feldkirchen
 Postfach 201, D-85619 Feldkirchen
 Germany
 Tel: <49> (89) 9 9180-0
 Fax: <49> (89) 9 29 30 00

Hitachi Asia Ltd.
 Hitachi Tower
 16 Collyer Quay #20-00
 Singapore 049318
 Tel: <65>-538-6533/538-8577
 Fax: <65>-538-6933/538-3877
 URL: <http://semiconductor.hitachi.com.sg>

Hitachi Asia Ltd.
 (Taipei Branch Office)
 4/F, No. 167, Tun Hwa North Road
 Hung-Kuo Building
 Taipei (105), Taiwan
 Tel: <886>-(2)-2718-3666
 Fax: <886>-(2)-2718-8180
 Telex: 23222 HAS-TP
 URL: <http://www.hitachi.com.tw>

Hitachi Asia (Hong Kong) Ltd.
 Group III (Electronic Components)
 7/F., North Tower
 World Finance Centre,
 Harbour City, Canton Road
 Tsim Sha Tsui, Kowloon Hong Kong
 Tel: <852>-(2)-735-9218
 Fax: <852>-(2)-730-0281
 URL: <http://semiconductor.hitachi.com.hk>

Copyright © Hitachi, Ltd., 2001. All rights reserved. Printed in Japan.
 Colophon 5.0