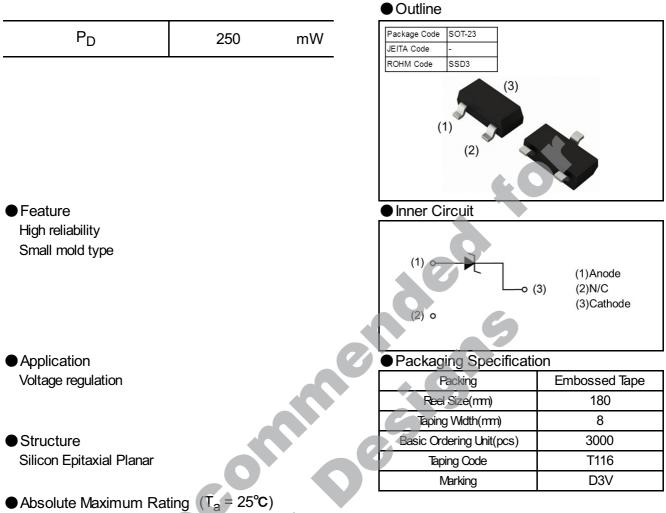


BZX84C12VLFH

Zener Diode

## (AEC-Q101 qualified) Data sheet



Parameter	Symbol	Condition	Limits	Unit
Dever dissipation	PD	an Class anova aubstrata	250	mW
Power dissipation		on Glass-epoxy substrate	2.0	mW/°C
Junction temperature	Tj	-	150	°C
Storage temperature	T <sub>stg</sub>	-	-65 ~ 150	°C

# **BZX84CFH Series**

# ● Characteristic (T<sub>a</sub> = 25°C)

	Symbol									
P/N	Zener	·Voltage:VZ	(V)		e Current: µA)	Dyna Impedano			èmperatu icient:γ <sub>z</sub> (	
	MIN.	MAX.	l <sub>z</sub> (mA)	MAX.	$V_{R}(V)$	MAX.	l <sub>z</sub> (mA)	MIN.	MAX.	l <sub>z</sub> (mA)
BZX84C2V4LFH	2.20	2.60	5	50	1.0	100	5	-3.0	0.0	5
BZX84C2V7LFH	2.50	2.90	5	20	1.0	100	5	-3.0	0.0	5
BZX84C3V0LFH	2.80	3.20	5	10	1.0	95	5	-3.0	0.0	5
BZX84C3V3LFH	3.10	3.50	5	5	1.0	95	5	-3.0	0.0	5
BZX84C3V6LFH	3.40	3.80	5	5	1.0	90	5	-3.0	0.0	5
BZX84C3V9LFH	3.70	4.10	5	3	1.0	90	5	-3.0	0.0	5
BZX84C4V3LFH	4.00	4.60	5	3	1.0	90	5	-3.0	0.0	5
BZX84C4V7LFH	4.40	5.00	5	3	2.0	80	5	-2.5	1,1	5
BZX84C5V1LFH	4.80	5.40	5	2	2.0	60	5	-1.5	2.6	5
BZX84C5V6LFH	5.20	6.00	5	1	2.0	40	5	-1.0	3.1	5
BZX84C6V2LFH	5.80	6.60	5	3	4.0	10	5	0.9	3.8	5
BZX84C6V8LFH	6.40	7.20	5	2	4.0	15	5	1.5	4.5	5
BZX84C7V5LFH	7.00	7.90	5	1	5.0	15	5	2.2	5.0	5
BZX84C8V2LFH	7.70	8.70	5	0.7	5.0	15	5	3.2	6.1	5
BZX84C9V1LFH	8.50	9.60	5	0.5	6.0	15	5	3.9	6.9	5
BZX84C10VLFH	9.40	10.60	5	0.2	7.0	20	5	5.0	8.0	5
BZX84C11VLFH	10.40	11.60	5	0.1	8.0	20	5	5.8	8.8	5
BZX84C12VLFH	11.40	12.70	5	0.1	8.0	25	5	6.8	9.8	5
BZX84C13VLFH	12.40	14.10	5	0.1	8.0	30	5	7.9	11.0	5
BZX84C15VLFH	13.80	15.60	5	0.1	10.0	30	5	9.4	12.6	5
BZX84C16VLFH	15.30	17.10	5	0.1	11.0	40	5	11.0	14.3	5
BZX84C18VLFH	16.80	19.10	5	0.1	13.0	45	5	12.6	15.8	5
BZX84C20VLFH	18.80	21.20	5	0.1	14.0	55	5	14.3	17.3	5
BZX84C22VLFH	20.80	23.30	5	0.1	15.0	55	5	15.8	19.3	5
BZX84C24VLFH	22.80	25.60	5	0.1	17.0	70	5	17.3	22.6	5
BZX84C27VLFH	25.10	28.90	2	0.1	19.0	80	2	19.3	25.8	2
BZX84C30VLFH	28.00	32.00	2	0.1	21.0	80	2	22.6	28.5	2
BZX84C33VLFH	31.00	35.00	2	0.1	23.0	80	2	25.8	31.1	2
BZX84C36VLFH	34.00	38.00	2	0.1	25.0	90	2	28.5	34.0	2
V- toot time is 40m	-									

#### Marking

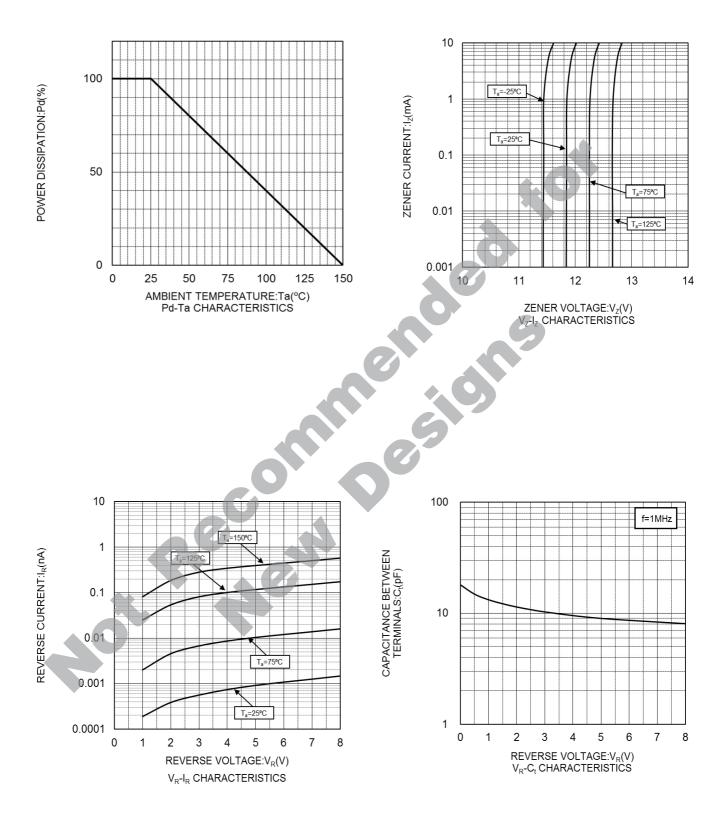
DZ/0400VLITI	J <del>4</del> .00	30.00	2	0.1	20.0	30	2	20.0	04.0	2	
V <sub>Z</sub> test time is 40ms		<ul> <li>1</li> </ul>									
<ul> <li>Marking</li> </ul>											
P/N	•	Marking				P/N		Marking			
BZX84C2V4LF	-	D3	SC .		BZX8	4C10VLF	H	D3T			
BZX84C2V7LFI	-	D3	D		BZX8	34C11VLF	H	D3U			
BZX84C3V0LFF	3VOLFH D3E BZX84C12VLFH					H		D3V			
BZX84C3V3LF	4	D	3F		BZX8	BZX84C13VLFH			D3W		
BZX84C3V6LFF	4	D3	G		BZX8	4C15VLF	H		D3X		
BZX84C3V9LFt	4	D3	βH		BZX8	4C16VLF	H		D3Y		
BZX84C4V3LF	4	D	ม		BZX8	4C18VLF	Ħ		D3Z		
BZX84C4V7LFI	4	D3K			BZX8	4C20VLF	Ħ	D5A			
BZX84C5V1LFt	4	D3L			BZX8	4C22VLF	Ħ	D5B			
BZX84C5V6LFt	-	D3M			BZX8	4C24VLF	ŦH	D5C			
BZX84C6V2LFt	-	D3N			BZX84C27VLFH			D5D			
BZX84C6V8LFt	4	D3	3P		BZX8	4C30VLF	H		D5E		
BZX84C7V5LF	-	D3	Q		BZX8	4C33VLF	H		D5F		
BZX84C8V2LF	4	D3	R		BZX8	4C36VLF	н		D5G		
BZX84C9V1LF	4	D3	S								





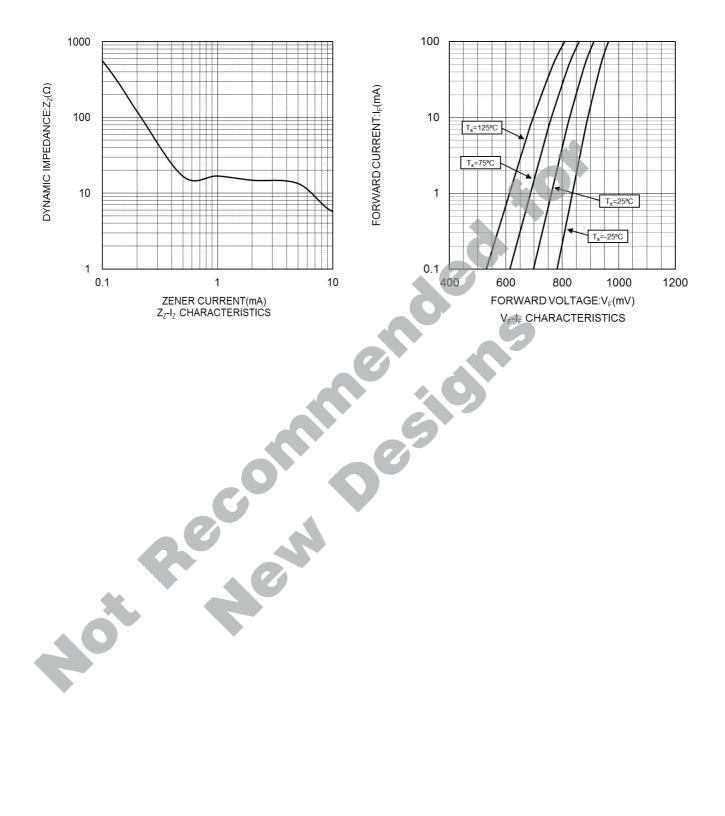
## BZX84C12VLFH

### Characteristic Curves



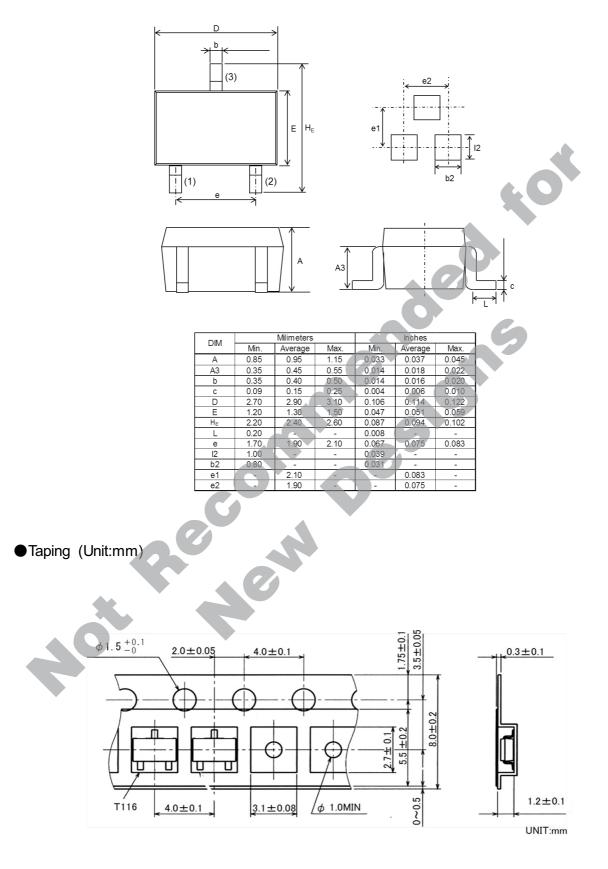


## Characteristic Curves





## Dimension (SSD3 SOT-23)





# Notice

#### **Precaution on using ROHM Products**

If you intend to use our Products in devices requiring extremely high reliability (such as medical equipment <sup>(Note 1)</sup>, aircraft/spacecraft, nuclear power controllers, etc.) and whose malfunction or failure may cause loss of human life, bodily injury or serious damage to property ("Specific Applications"), please consult with the ROHM sales representative in advance. Unless otherwise agreed in writing by ROHM in advance, ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of any ROHM's Products for Specific Applications.

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CLASSI		CLASS II b		
CLASSⅣ	CLASSⅢ	CLASSⅢ	CLASSⅢ	

2. ROHM designs and manufactures its Products subject to strict quality control system. However, semiconductor products can fail or malfunction at a certain rate. Please be sure to implement, at your own responsibilities, adequate safety measures including but not limited to fail-safe design against the physical injury, damage to any property, which a failure or malfunction of our Products may cause. The following are examples of safety measures:

[a] Installation of protection circuits or other protective devices to improve system safety

[b] Installation of redundant circuits to reduce the impact of single or multiple circuit failure

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  - [a] Use of our Products in any types of liquid, including water, oils, chemicals, and organic solvents
  - [b] Use of our Products outdoors or in places where the Products are exposed to direct sunlight or dust
  - [c] Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, and NO<sub>2</sub>
  - [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
  - [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
  - [f] Sealing or coating our Products with resin or other coating materials
  - [g] Use of our Products without cleaning residue of flux (Exclude cases where no-clean type fluxes is used. However, recommend sufficiently about the residue.); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
  - [h] Use of the Products in places subject to dew condensation
- 4. The Products are not subject to radiation-proof design.
- 5. Please verify and confirm characteristics of the final or mounted products in using the Products.
- 6. In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse, is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- 7. De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
- 8. Confirm that operation temperature is within the specified range described in the product specification.
- 9. ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

#### Precaution for Mounting / Circuit board design

- 1. When a highly active halogenous (chlorine, bromine, etc.) flux is used, the residue of flux may negatively affect product performance and reliability.
- 2. In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

#### **Precautions Regarding Application Examples and External Circuits**

- 1. If change is made to the constant of an external circuit, please allow a sufficient margin considering variations of the characteristics of the Products and external components, including transient characteristics, as well as static characteristics.
- 2. You agree that application notes, reference designs, and associated data and information contained in this document are presented only as guidance for Products use. Therefore, in case you use such information, you are solely responsible for it and you must exercise your own independent verification and judgment in the use of such information contained in this document. ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of such information.

#### **Precaution for Electrostatic**

This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of lonizer, friction prevention and temperature / humidity control).

#### Precaution for Storage / Transportation

- 1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
  - [a] the Products are exposed to sea winds or corrosive gases, including Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, and NO<sub>2</sub>
  - [b] the temperature or humidity exceeds those recommended by ROHM
  - [c] the Products are exposed to direct sunshine or condensation
  - [d] the Products are exposed to high Electrostatic
- 2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
- 3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
- 4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

#### **Precaution for Product Label**

A two-dimensional barcode printed on ROHM Products label is for ROHM's internal use only.

#### **Precaution for Disposition**

When disposing Products please dispose them properly using an authorized industry waste company.

#### Precaution for Foreign Exchange and Foreign Trade act

Since concerned goods might be fallen under listed items of export control prescribed by Foreign exchange and Foreign trade act, please consult with ROHM in case of export.

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