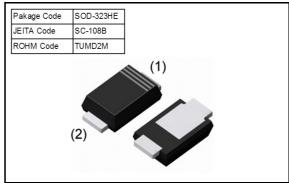
(AEC-Q101 qualified) Data sheet

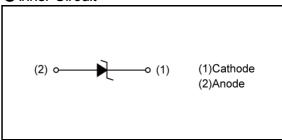
$P_{D}$	500	mW

Outline



FeatureHigh reliabilitySmall mold type

Inner Circuit



ApplicationVoltage regulation

Packaging Specification

Prackaging Specification				
Packing	Embossed Tape			
Reel Size(mm)	180			
Taping Width(mm)	8			
Basic Ordering Unit(pcs)	3000			
Taping Code	TR			
Marking	NM			

StructureSilicon Epitaxial Planar

● Absolute Maximum Rating (T<sub>a</sub> = 25°C)

Parameter	Symbol	Limits	Unit
Power dissipation	$P_{D}$	500	mW
Junction temperature	Tj	150	°C
Storage temperature	T <sub>stg</sub>	-55 ~ 150	ဇ

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

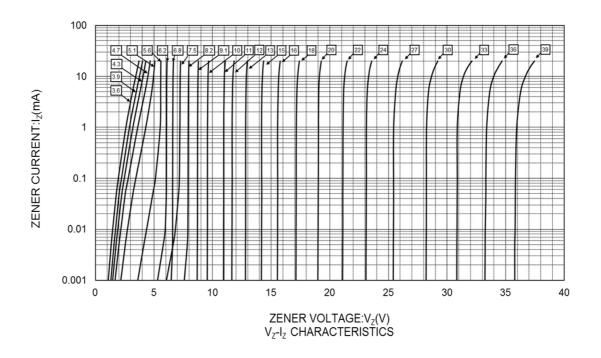
	Symbol						
P/N	Zen	$ \text{r Voltage:V}_Z(V) \qquad \qquad DynamicImpedance:Z_Z(\Omega)  ReverseCurrent:I_R(\mu Voltage:V_Z(\Omega)) $		Dynamic Impedance: $Z_Z(\Omega)$		urrent:1 <sub>R</sub> (µA)	
	MIN.	MAX.	l <sub>z</sub> (mA)	MAX.	l <sub>z</sub> (mA)	MAX.	V <sub>R</sub> (V)
YFZVFH3.6B	3.600	3.845	20	60	20	10	1.0
YFZVFH3.9B	3.890	4.160	20	50	20	5	1.0
YFZVFH4.3B	4.170	4.430	20	40	20	5	1.0
YFZVFH4.7B	4.550	4.800	20	25	20	5	1.0
YFZVFH5.1B	4.940	5.200	20	20	20	5	1.5
YFZVFH 5.6B	5.450	5.730	20	13	20	5	2.5
YFZVFH6.2B	5.960	6.270	20	10	20	5	3.0
YFZVFH6.8B	6.490	6.830	20	8	20	2	3.5
YFZVFH7.5B	7.070	7.450	20	8	20	0.5	4.0
YFZVFH8.2B	7.780	8.190	20	8	20	0.5	5.0
YFZVFH9.1B	8.570	9.010	20	8	20	0.5	6.0
YFZVFH10B	9.410	9.900	20	8	20	0.2	7.0
YFZVFH11B	10.500	11.050	10	10	10	0.2	8.0
YFZVFH12B	11.440	12.030	10	12	10	0.2	9.0
YFZVFH13B	12.550	13.210	10	14	10	0.2	10
YFZVFH15B	13.890	14.620	10	16	10	0.2	11
YFZVFH16B	15.250	16.040	10	18	10	0.2	12
YFZVFH18B	16.820	17.700	10	23	10	0.2	13
YFZVFH20B	18.630	19.590	10	28	10	0.2	15
YFZVFH22B	20.640	21.710	5	30	5	0.2	17
YFZVFH24B	22.610	23.770	5	35	5	0.2	19
YFZVFH27B	24.970	26.260	5	45	5	0.2	21
YFZVFH30B	27.700	29.130	5	55	5	0.2	23
YFZVFH33B	30.320	31.880	5	65	5	0.2	25
YFZVFH36B	32.790	34.490	5	75	5	0.2	27
YFZVFH39B	35.360	37.190	5	85	5	0.2	30

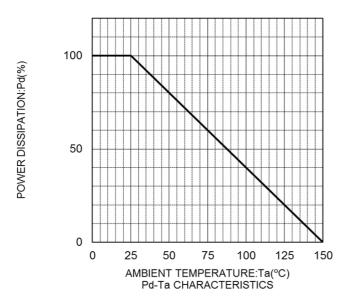
V<sub>Z</sub> test time is 40ms.

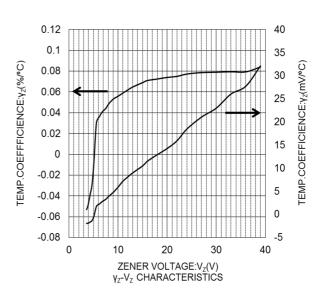
## Marking

P/N	Marking	P/N	Marking
YFZVFH3.6B	N6	YFZVFH 12B	NK
YFZVFH3.9B	N7	YFZVFH 13B	NL
YFZVFH4.3B	N8	YFZVFH 15B	NM
YFZVFH4.7B	N9	YFZVFH 16B	NN
YFZVFH5.1B	NA.	YFZVFH 18B	NP
YFZVFH 5.6B	NB	YFZVFH20B	NQ
YFZVFH6.2B	NC	YFZVFH22B	NR
YFZVFH6.8B	ND	YFZVFH24B	NS
YFZVFH7.5B	NE	YFZVFH27B	NT
YFZVFH8.2B	NF	YFZVFH30B	NU
YFZVFH9.1B	NG	YFZVFH33B	NV
YFZVFH 10B	NH	YFZVFH36B	NW
YFZVFH11B	N	YFZVFH39B	NX

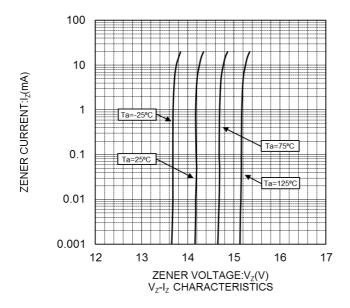
## Characteristic Curves

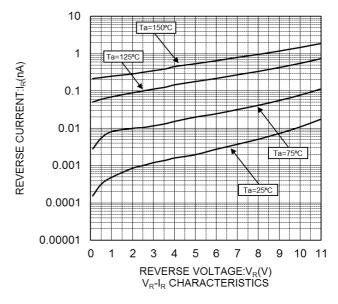


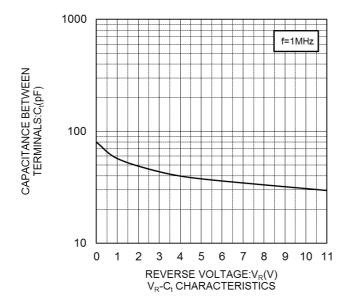


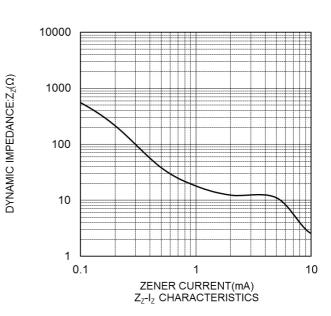


## Characteristic Curves

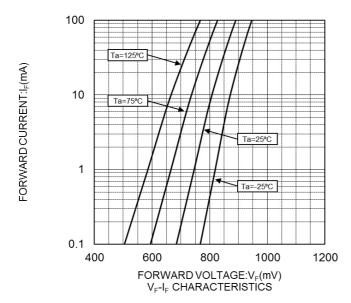




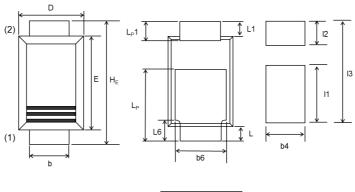


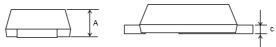


## Characteristic Curves



## ● Dimension (TUMD2M SC-108B)

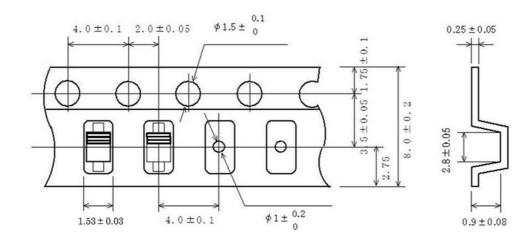




DIM	Milimeters			Inches		
DIIVI	Min.	Average	Max.	Min.	Average	Max.
Α	0.50	0.60	0.80	0.020	0.024	0.031
b	0.75	0.80	0.85	0.030	0.031	0.033
b6	0.90	1.00	1.10	0.035	0.039	0.043
С	0.12	0.17	0.27	0.005	0.007	0.011
D	1.30	1.40	1.50	0.051	0.055	0.059
E	1.90	2.00	2.10	0.075	0.079	0.083
HE	2.30	2.50	2.70	0.091	0.098	0.106
L	-	0.25	-	-	0.010	-
L1	-	0.25	-	-	0.010	-
L6	-	0.45	-	-	0.018	-
Lp	1.40	1.50	1.60	0.055	0.059	0.063
L <sub>P</sub> 1	0.30	0.40	0.50	0.012	0.016	0.020
b4	-	1.10	-	-	0.043	-
l1	-	2.00	-	-	0.079	-
12	-	0.80	-	-	0.031	-
13	-	3.30		-	0.130	-

- (1) The marking bar indicates the cathode.(2) The direction indicates the anode.

## ● Taping (Unit:mm)



## **Notice**

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

1. If you intend to use our Products in devices requiring extremely high reliability (such as medical equipment (Note 1), 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.

(Note1) Medical Equipment Classification of the Specific Applications

JÁPAN	USA	EU	CHINA	
CLASSIII	CL ACCIII	CLASS II b	CLASSIII	
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
- 3. Our Products are not designed under any special or extraordinary environments or conditions, as exemplified below. Accordingly, ROHM shall not be in any way responsible or liable for any damages, expenses or losses arising from the use of any ROHM's Products under any special or extraordinary environments or conditions. If you intend to use our Products under any special or extraordinary environments or conditions (as exemplified below), your independent verification and confirmation of product performance, reliability, etc, prior to use, must be necessary:
  - [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 (even if you use no-clean type fluxes, cleaning residue of flux is recommended); 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 Cl2, H2S, NH3, SO2, and NO2
  - [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
- 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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Rev.001

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ROHM Semiconductor: YFZVFHTR15B



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- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
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