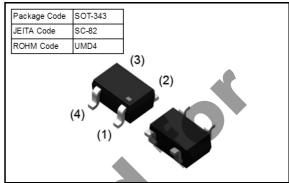
(AEC-Q101 qualified) Data sheet

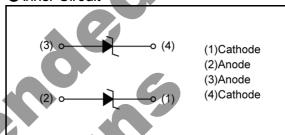
Zener Diode

P_{D}	200	mW

Outline



Feature High reliability Small mold type Inner Circuit



Application Voltage regulation Packaging Specification

 Packaging Specification 			
	Packing	Embossed Tape	
	Reel Size(mm)	180	
	Taping Width(mm)	8	
	Basic Ordering Unit(pcs)	3000	
	Taping Code	℡	
	Marking	5X	
25℃)			
0 1 4	1.1. 14	1.1.14	

Structure Silicon Epitaxial Planar

Absolute Maximum Rating (Ta

Parameter	Symbol	Limits	Unit
Power dissipation	PD	200	mW
Junction temperature	Ţj	150	°C
Storage temperature	T _{stg}	-55 ~ 150	ဇ

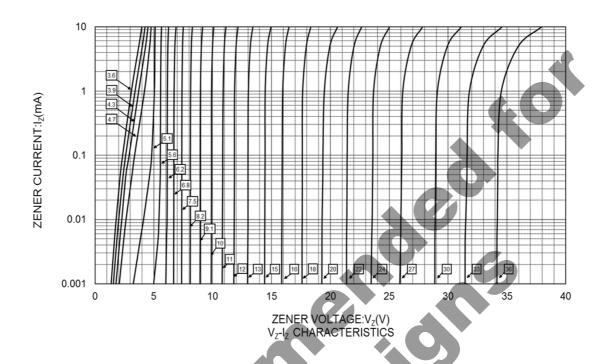
● Characteristic (T_a = 25°C)

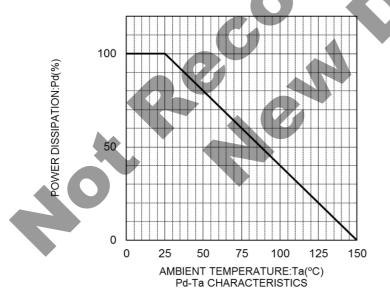
		Symbol				
P/N	Ze	Zener Voltage:V _Z (V)			Reverse Current: I _R (µA)	
	MIN.	MAX.	l _z (mA)	MAX.	V _R (V)	
UMZ 3.6KFH	3.600	3.845	5.0	10.0	1.0	
UMZ 3.9KFH	3.890	4.160	5.0	5.0	1.0	
UMZ 4.3KFH	4.170	4.430	5.0	5.0	1.0	
UMZ 4.7KFH	4.550	4.750	5.0	2.0	1.0	
UMZ 5.1KFH	4.980	5.200	5.0	2.0	1.5	
UMZ 5.6KFH	5.490	5.730	5.0	1.0	2.5	
UMZ 6.2KFH	6.060	6.330	5.0	1.0	3.0	
UMZ 6.8KFH	6.650	6.930	5.0	0.5	3.5	
UMZ 7.5KFH	7.280	7.600	5.0	0.5	4.0	
UMZ 8.2KFH	8.020	8.360	5.0	0.5	5.0	
UMZ 9.1KFH	8.850	9.230	5.0	0.5	6.0	
UMZ 10KFH	9.770	10.210	5.0	0.1	7.0	
UMZ 11KFH	10.760	11.220	5.0	0.1	8.0	
UMZ 12KFH	11.740	12.240	5.0	0.1	9.0	
UMZ 13KFH	12.910	13.490	5.0	0.1	10.0	
UMZ 15KFH	14.340	14.980	5.0	0.1	11.0	
UMZ 16KFH	15.850	16.510	5.0	0.1	12.0	
UMZ 18KFH	17.560	18.350	5.0	0.1	13.0	
UMZ 20KFH	19.520	20.390	5.0	0.1	15.0	
UMZ 22KFH	21.540	22.470	5.0	0.1	17.0	
UMZ 24KFH	23.720	24.780	5.0	0.1	19.0	
UMZ 27KFH	26.190	27.530	5.0	0.1	21.0	
UMZ 30KFH	29.190	30.690	5.0	0.1	23.0	
UMZ 33KFH	32.150	33.790	5.0	0.1	25.0	
UMZ 36KFH	35.070	36.870	5.0	0.1	27.0	

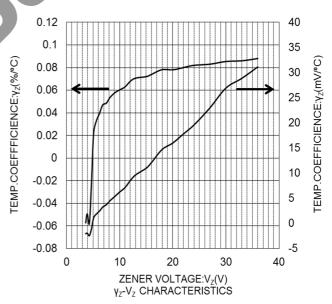
V_Z test time is 40ms.

UMZ 33KFH	32.150	33.790	5.0	0.1	25.0
UMZ 36KFH	35.070	36.870	5.0	0.1	27.0
V _Z test time is 40ms. ■ Marking					
P/N		Marking	P	/N	Marking
UMZ 3.6KFH		5∪	UMZ 1	12KFH	2L
UMZ 3.9KFH		5V	UMZ 1	13KFH	5B
UMZ 4.3KFH	1	5W	UMZ 1	15KFH	2M
UMZ 4.7KFH	ı	5X	UMZ 1	16KFH	2N
UMZ 5.1KFH	l	5Y	UMZ 1	18KFH	2P
UMZ 5.6KFH		3V	UMZ 2	20KFH	2Q
UMZ 6.2KFH	l	5Z	UMZ 2	2KFH	2R
UMZ 6.8KFH		3X		24KFH	2S
UMZ 7.5KFH		2E		27KFH	2T
UMZ 8.2KFH		2H		30KFH	2U
UMZ 9.1KFH		5E		33KFH	2V
UMZ 10KFH		3Z	UMZ 3	36KFH	2W
UMZ 11KFH		2K			

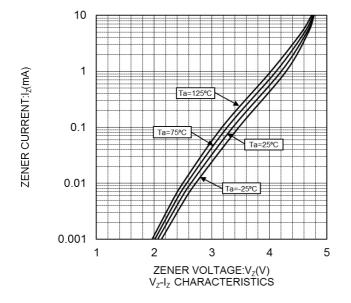
Characteristic Curves

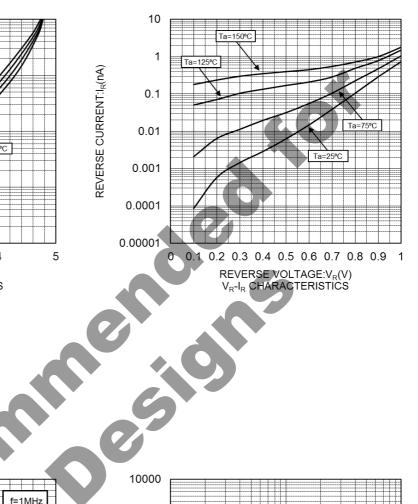


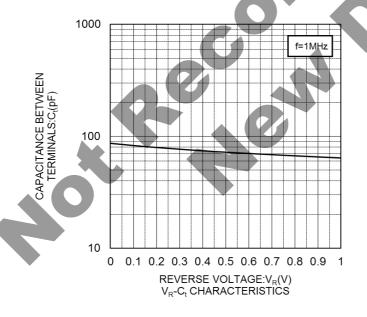


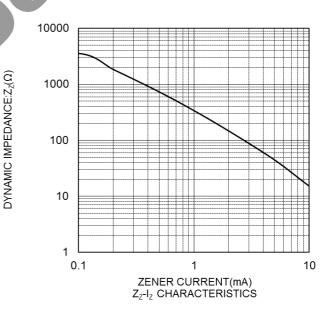


Characteristic Curves

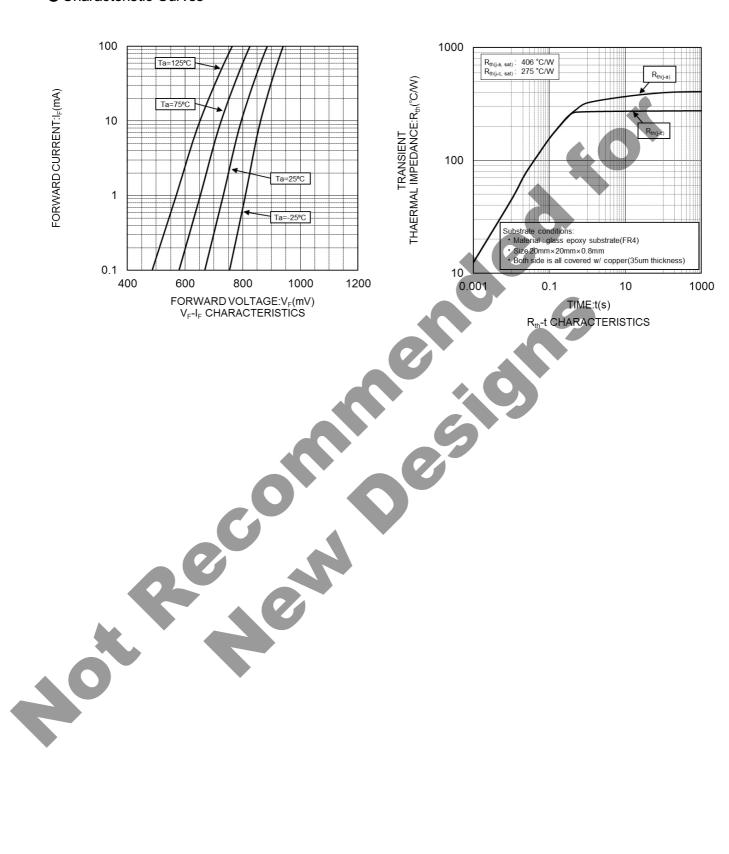




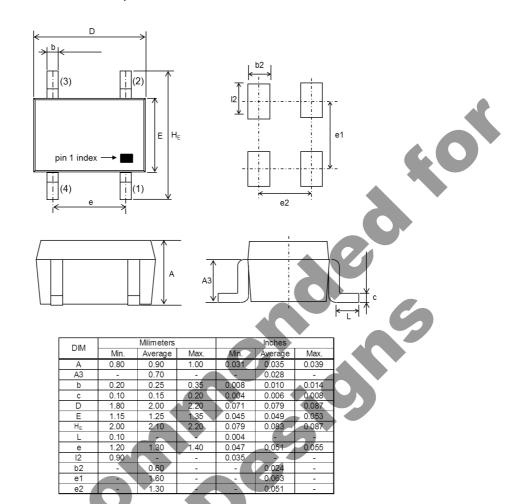




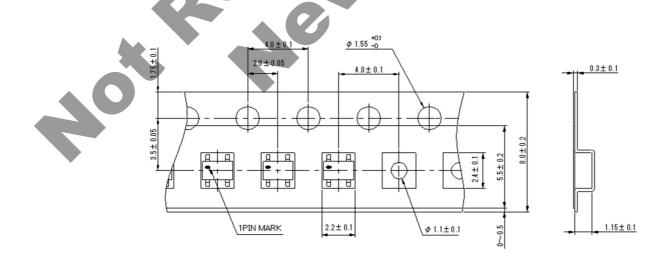
Characteristic Curves



● Dimension (UMD4 SOT-343 SC-82)



● 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

(11010 1) Modical Equipment Glacomedian of the Opening Applications				
JAPAN	USA	EU	CHINA	
CLASSⅢ	CLASSⅢ	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 Cl₂, H₂S, NH₃, SO₂, and NO₂
 - [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.
- 3. 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
- 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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- 3. The information contained in this document is provided on an "as is" basis and ROHM does not warrant that all information contained in this document is accurate an d/or error-free. ROHM shall not be in an y way responsible or liable for any damages, expenses or losses incurred by you or third parties resulting from inaccuracy or errors of or concerning such information.



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- 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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