VDZ4.7B

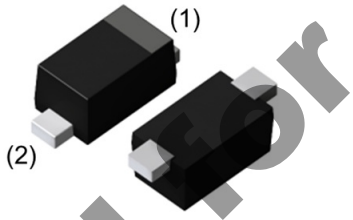
Zener Diode

Data sheet

P_D	100	mW

● Outline

Package Code	SOD-723
JEITA Code	SC-104A
ROHM Code	VMD2

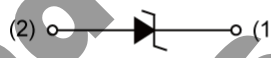


● Feature

High reliability

Small mold type

● Inner Circuit



(1)Cathode
(2)Anode

● Application

Voltage regulation

● Structure

Silicon Epitaxial Planar

● Packaging Specification

Packing	Embossed Tape
Reel Size(mm)	180
Taping Width(mm)	8
Basic Ordering Unit(pcs)	8000
Taping Code	T2R
Marking	92

● Absolute Maximum Rating (T_a = 25ºC)

Parameter	Symbol	Limits	Unit
Power dissipation	P_D	100	mW
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 ~ 150	℃

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● Characteristic (T_a = 25ºC)

P/N	Symbol								
	Zener Voltage:V_Z(V)			Dynamic Impedance:Z_Z(Ω)		Zener Impedance:Z_{ZK}(Ω)		Reverse Current:I_R(μA)	
	MIN.	MAX.	I_Z(mA)	MAX.	I_Z(mA)	MAX.	I_Z(mA)	MAX.	V_R(V)
VDZ 2.0B	2.020	2.200	5.0	100	5.0	1000	0.5	120	0.5
VDZ 2.2B	2.220	2.410	5.0	100	5.0	1000	0.5	120	0.7
VDZ 2.4B	2.430	2.630	5.0	100	5.0	1000	0.5	120	1.0
VDZ 2.7B	2.690	2.910	5.0	110	5.0	1000	0.5	100	1.0
VDZ 3.0B	3.010	3.220	5.0	120	5.0	1000	0.5	50	1.0
VDZ 3.3B	3.320	3.530	5.0	120	5.0	1000	0.5	20	1.0
VDZ 3.6B	3.600	3.845	5.0	100	5.0	1000	1.0	10	1.0
VDZ 3.9B	3.890	4.160	5.0	100	5.0	1000	1.0	5.0	1.0
VDZ 4.3B	4.170	4.430	5.0	100	5.0	1000	1.0	5.0	1.0
VDZ 4.7B	4.550	4.750	5.0	100	5.0	800	0.5	2.0	1.0
VDZ 5.1B	4.980	5.200	5.0	80	5.0	500	0.5	2.0	1.5
VDZ 5.6B	5.490	5.730	5.0	60	5.0	200	0.5	1.0	2.5
VDZ 6.2B	6.060	6.330	5.0	60	5.0	100	0.5	1.0	3.0
VDZ 6.8B	6.650	6.930	5.0	40	5.0	60	0.5	0.5	3.5
VDZ 7.5B	7.280	7.600	5.0	30	5.0	60	0.5	0.5	4.0
VDZ 8.2B	8.020	8.360	5.0	30	5.0	60	0.5	0.5	5.0
VDZ 9.1B	8.850	9.230	5.0	30	5.0	60	0.5	0.5	6.0
VDZ 10B	9.770	10.21	5.0	30	5.0	60	0.5	0.1	7.0
VDZ 11B	10.76	11.22	5.0	30	5.0	60	0.5	0.1	8.0
VDZ 12B	11.74	12.24	5.0	30	5.0	80	0.5	0.1	9.0
VDZ 13B	12.91	13.49	5.0	37	5.0	80	0.5	0.1	10.0
VDZ 15B	14.34	14.98	5.0	42	5.0	80	0.5	0.1	11.0
VDZ 16B	15.85	16.51	5.0	50	5.0	80	0.5	0.1	12.0
VDZ 18B	17.56	18.35	2.0	65	2.0	80	0.5	0.1	13.0
VDZ 20B	19.52	20.39	2.0	85	2.0	100	0.5	0.1	15.0
VDZ 22B	21.54	22.47	2.0	100	2.0	100	0.5	0.1	17.0
VDZ 24B	23.72	24.78	2.0	120	2.0	120	0.5	0.1	19.0
VDZ 27B	26.19	27.53	2.0	150	2.0	150	0.5	0.1	21.0
VDZ 30B	29.19	30.69	2.0	200	2.0	200	0.5	0.1	23.0
VDZ 33B	32.15	33.79	2.0	250	2.0	250	0.5	0.1	25.0
VDZ 36B	35.07	36.87	2.0	300	2.0	300	0.5	0.1	27.0

V_Z test time is 40ms.

● Marking

形名	Marking	形名	Marking
VDZ 2.0B	01	VDZ 9.1B	L2
VDZ 2.2B	12	VDZ 10B	05
VDZ 2.4B	22	VDZ 11B	15
VDZ 2.7B	32	VDZ 12B	25
VDZ 3.0B	42	VDZ 13B	35
VDZ 3.3B	52	VDZ 15B	45
VDZ 3.6B	62	VDZ 16B	55
VDZ 3.9B	72	VDZ 18B	65
VDZ 4.3B	82	VDZ 20B	75
VDZ 4.7B	92	VDZ 22B	85
VDZ 5.1B	A2	VDZ 24B	95
VDZ 5.6B	C2	VDZ 27B	A5
VDZ 6.2B	E2	VDZ 30B	C5
VDZ 6.8B	F2	VDZ 33B	E5
VDZ 7.5B	H2	VDZ 36B	F5
VDZ 8.2B	J2		

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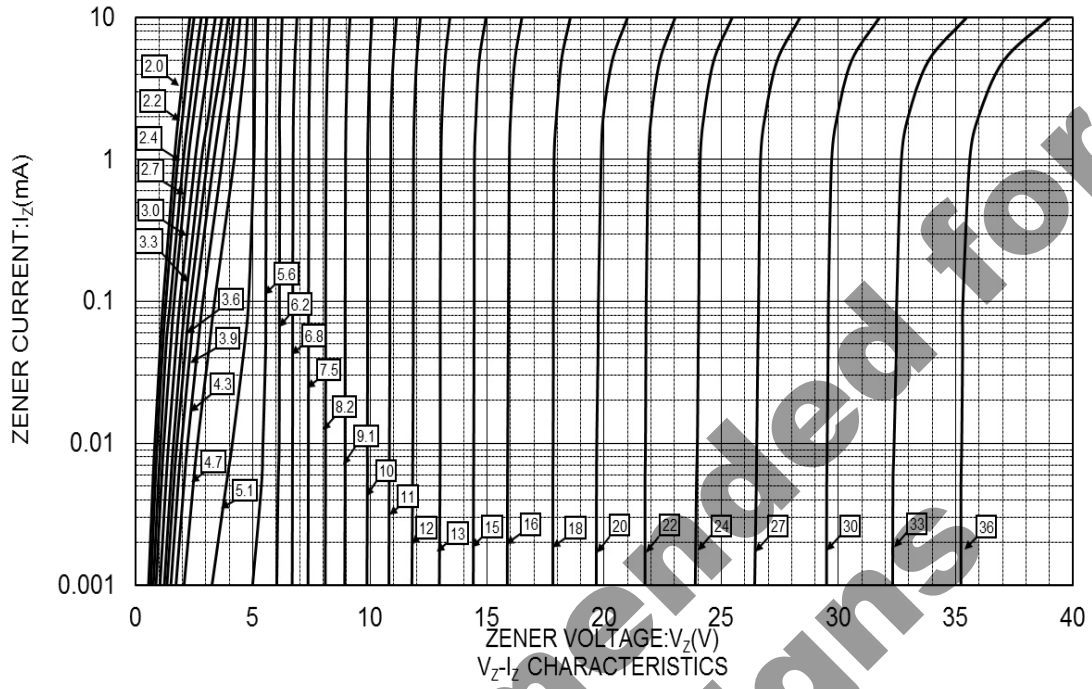
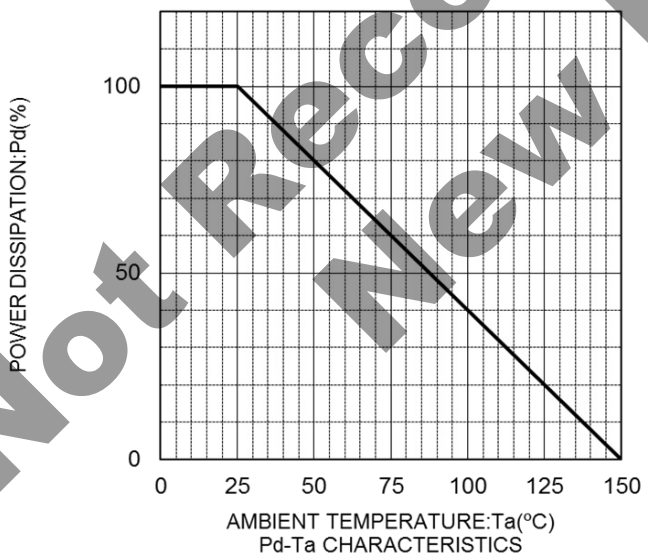
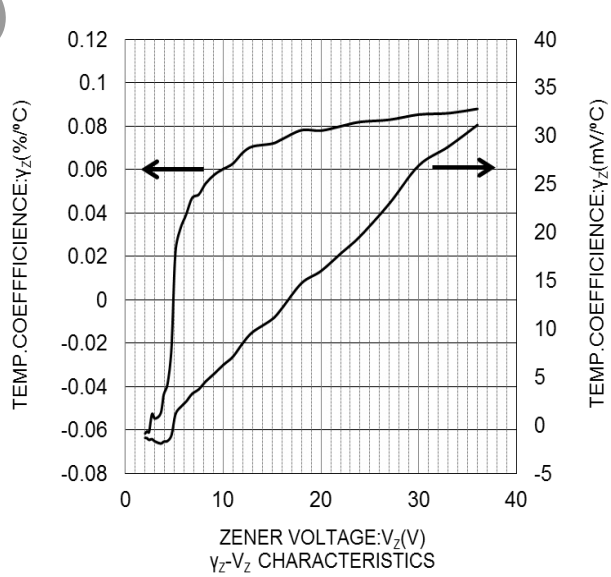
● Characteristic Curves



V_Z-I_Z CHARACTERISTICS



Pd-Ta CHARACTERISTICS



γ_Z-V_Z CHARACTERISTICS

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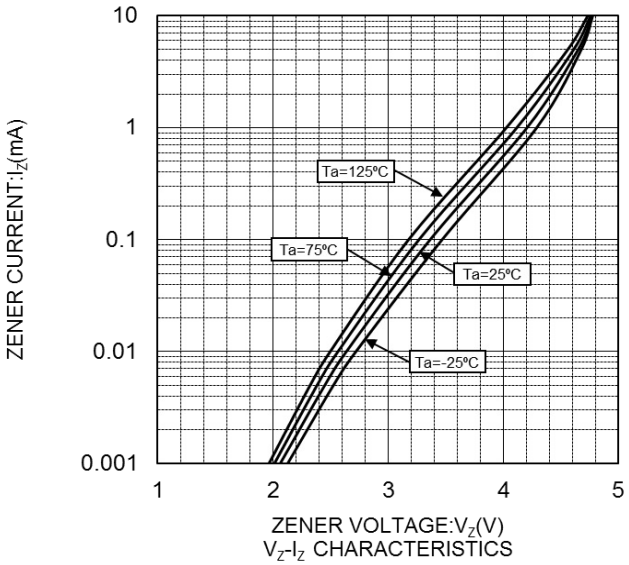
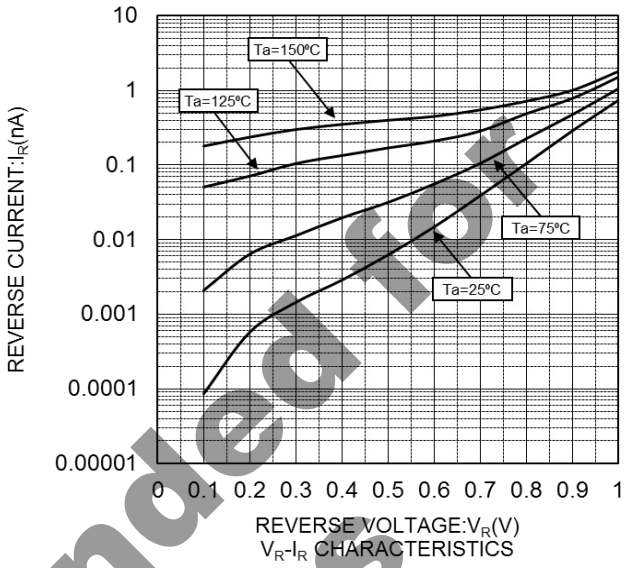
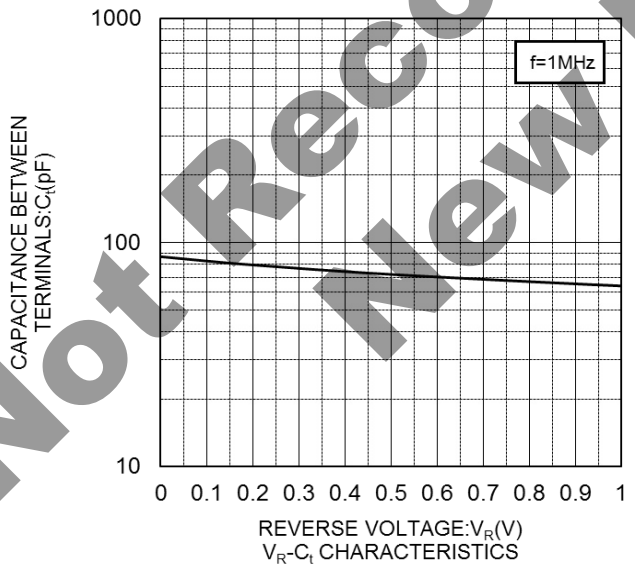
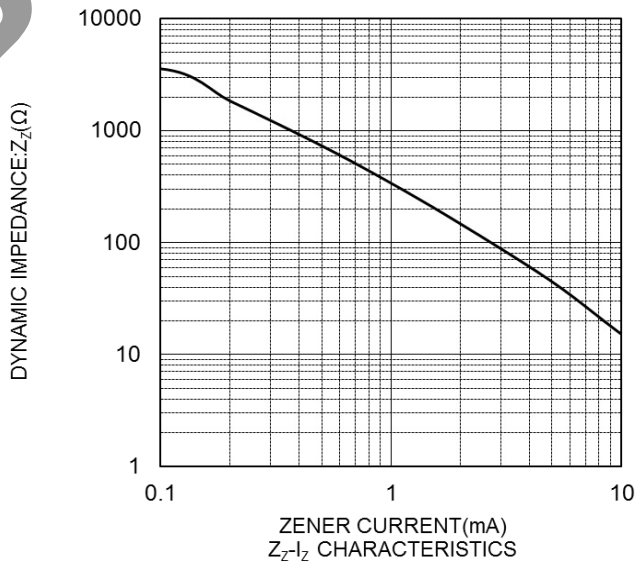
● Characteristic Curves









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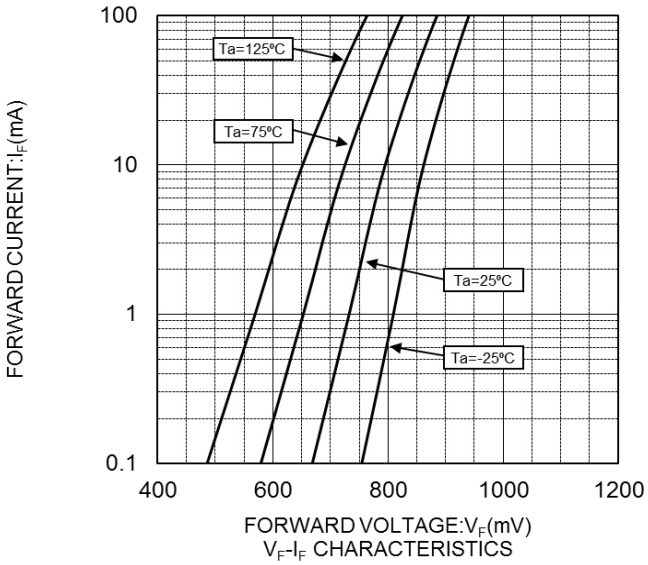
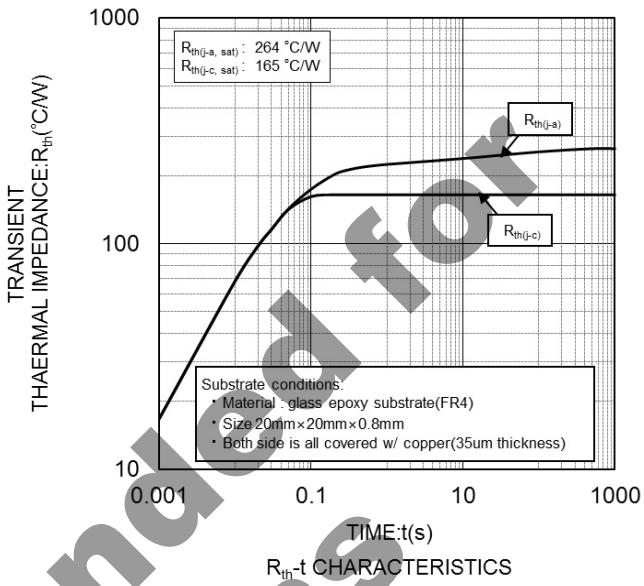
● Characteristic Curves





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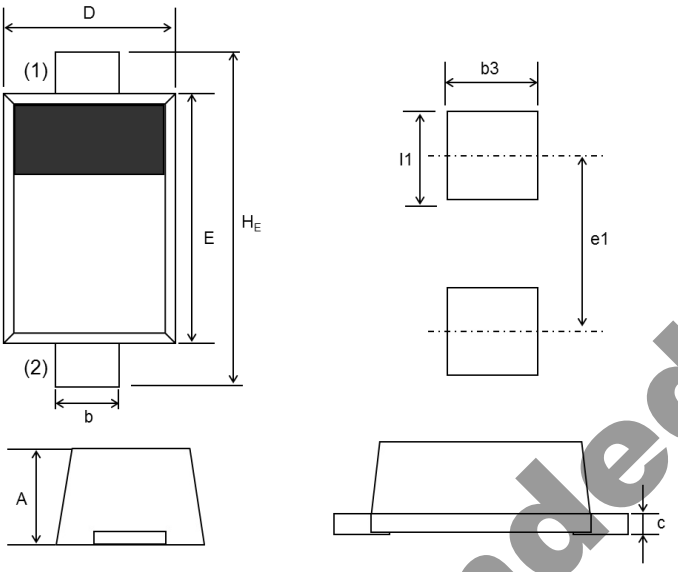
● Dimension (VMD2 SOD-723 SC-104A)



DIM	Milimeters			Inches		
	Min.	Average	Max.	Min.	Average	Max.
A	0.45	0.50	0.55	0.018	0.020	0.022
b	0.24	0.27	0.30	0.009	0.011	0.012
c	0.08	0.13	0.18	0.003	0.005	0.007
D	0.55	0.60	0.65	0.022	0.024	0.026
E	0.95	1.00	1.05	0.037	0.039	0.041
H_E	1.35	1.40	1.45	0.053	0.055	0.057
l1	-	0.50	-	-	0.020	-
b3	-	0.50	-	-	0.020	-
e1	-	1.20	-	-	0.047	-

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

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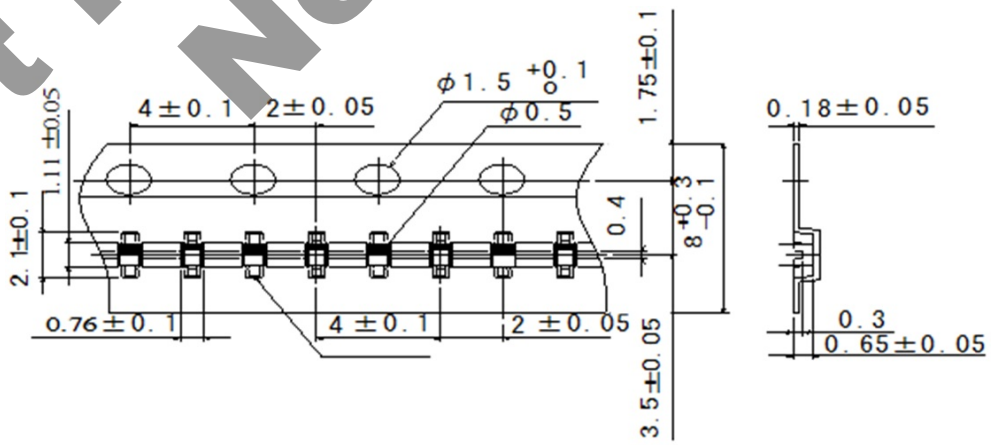
● Taping (Unit:mm)



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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA
CLASSⅢ	CLASSⅢ	CLASSⅡb	CLASSⅢ
CLASSⅣ		CLASSⅢ	

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   [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

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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 Ionizer, 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.

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VDZT2R4.7B

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