

MAZ7000 series (MA7000 Series)

Silicon planar type

For stabilization of power supply

■ Features

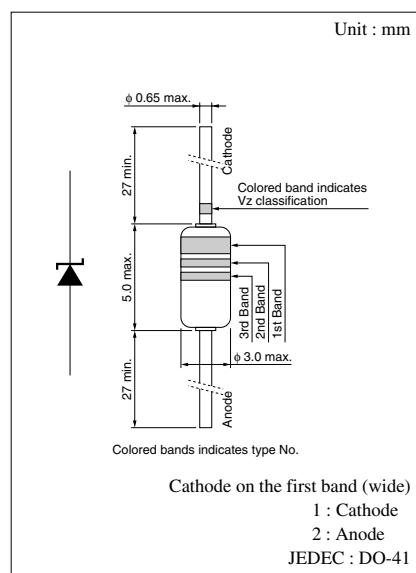
- Large power dissipation P_{tot} (800 mW)
- Allowing to supply with the radial taping

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	I_{FRM}	200	mA
Total power dissipation ^{*1}	P_{tot}	800	W
Non-repetitive reverse surge power dissipation ^{*2}	P_{ZSM}	60	W
Junction temperature	T_j	200	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +200	$^\circ\text{C}$

Note) ^{*1} : $P_{tot} = 800$ mW achieved with a printed-circuit board

^{*2} : $t = 100$ μs , $T_j = 150^\circ\text{C}$



• Color indication of V_Z rank classification

A rank	B rank
Blue	Red

■ Common Electrical Characteristics $T_a = 25^\circ\text{C}$ ^{*1}

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F = 200$ mA			1.0	V
Zener voltage ^{*2}	V_Z	I_Z Specified value				V
Operating resistance	R_Z	I_Z Specified value				Ω
Reverse current	I_R	V_R Specified value				μA
Temperature coefficient of zener voltage ^{*3}	S_Z	I_Z Specified value				mV/ $^\circ\text{C}$
Terminal capacitance	C_t	V_R Specified value				pF

Note) 1. Rated input/output frequency: 5 MHz

2. ^{*1} : The V_Z value is for the temperature of 25°C . In other cases, carry out the temperature compensation.

^{*2} : Guaranteed at 20 ms after power application.

^{*3} : $T_j = 25^\circ\text{C}$ to 150°C

Note) The part number in the parenthesis shows conventional part number.

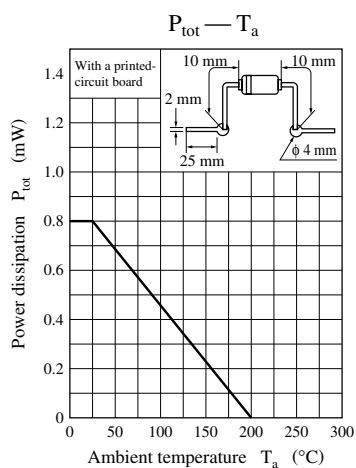
Zener Diodes

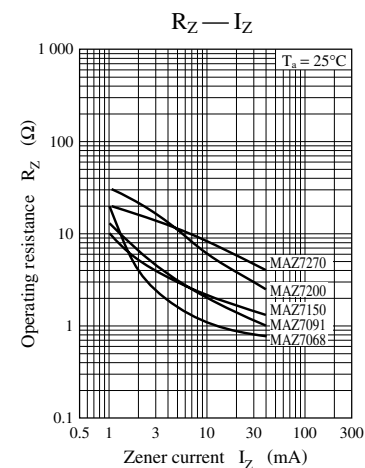
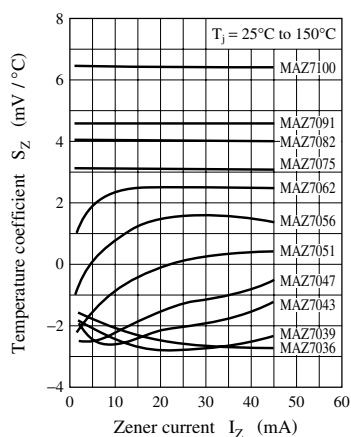
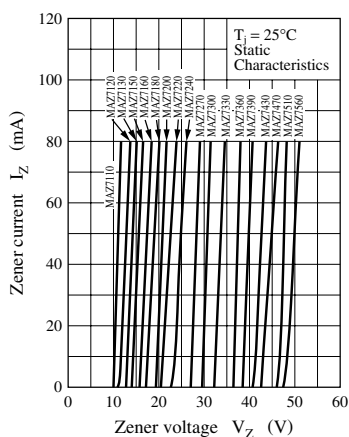
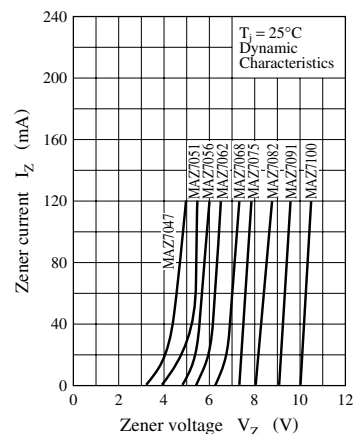
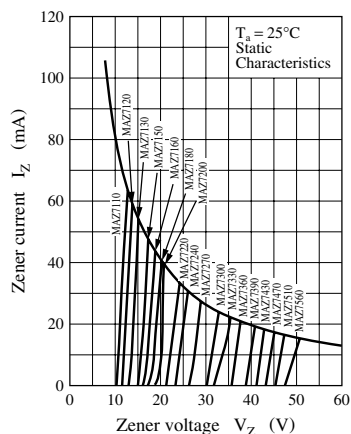
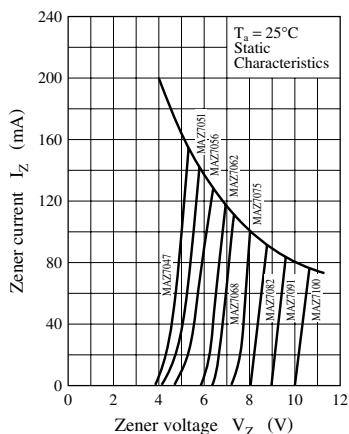
■ Electrical characteristics within part numbers $T_a = 25^\circ\text{C}$

Part Number	Zener voltage			Reverse current		Operating resistance		Temperature coefficient of zener voltage		Terminal capacitance	Marking Symbol (Color indication)		
	V_Z			I_R		R_Z		S_Z		C_t (pF) ($V_R = 0$ V) $f = 1$ MHz Typ			
	Min (V)	Max (V)	I_Z (mA)	Max (μ A)	V_R (V)	Max (Ω)	I_Z (mA)	Typ (mV/ $^\circ\text{C}$)	I_Z (mA)		1st.	2nd.	3rd.
MAZ7051	4.8	5.4	40	20	1	10	40	0	40	200	Green	Brown	Brown
MAZ7051-A	4.8	5.15											
MAZ7051-B	5.05	5.4											
MAZ7056	5.2	6.0	40	20	2	8	40	1.5	40	180	Green	Blue	Blue
MAZ7056-A	5.3	5.7											
MAZ7056-B	5.6	6.0											
MAZ7062	5.8	6.6	40	20	3	6	40	2.4	40	330	Blue	Red	Red
MAZ7062-A	5.8	6.2											
MAZ7062-B	6.1	6.5											
MAZ7068	6.4	7.2	40	10	3	6	40	3.1	40	280	Blue	Gray	Gray
MAZ7068-A	6.4	6.8											
MAZ7068-B	6.7	7.1											
MAZ7075	7.0	7.9	40	10	3	5	40	3.8	40	250	Purple	Green	Green
MAZ7075-A	7.0	7.45											
MAZ7075-B	7.35	7.8											
MAZ7082	7.7	8.7	40	10	4	5	40	4.5	40	230	Gray	Red	Red
MAZ7082-A	7.7	8.2											
MAZ7082-B	8.1	8.6											
MAZ7091	8.5	9.6	40	10	5	6	40	5.4	40	220	White	Brown	Brown
MAZ7091-A	8.5	9.05											
MAZ7091-B	8.95	9.5											
MAZ7100	9.4	10.6	40	10	7	6	40	6.3	40	220	Brown	Black	—
MAZ7100-A	9.4	10.0											
MAZ7100-B	9.9	10.5											
MAZ7110	10.4	11.6	20	5	7	8	20	7.4	20	160	Brown	Brown	—
MAZ7110-A	10.4	11.05											
MAZ7110-B	10.85	11.5											
MAZ7120	11.4	12.7	20	5	8	8	20	8.4	20	160	Brown	Red	—
MAZ7120-A	11.4	12.1											
MAZ7120-B	11.9	12.6											
MAZ7130	12.4	14.1	20	5	9	10	20	9.4	20	155	Brown	Orange	—
MAZ7130-A	12.4	13.25											
MAZ7130-B	13.15	14.0											
MAZ7150	13.8	15.6	20	5	10	12	20	11.4	20	150	Brown	Green	—
MAZ7150-A	13.8	14.7											
MAZ7150-B	14.5	15.4											
MAZ7160	15.3	17.1	20	5	11	12	20	12.5	20	135	Brown	Blue	—
MAZ7160-A	15.3	16.3											
MAZ7160-B	16.1	17.1											
MAZ7180	16.8	19.1	20	5	12	15	20	14.5	20	110	Brown	Gray	—
MAZ7180-A	16.8	18.0											
MAZ7180-B	17.8	19.0											
MAZ7200	18.8	21.2	20	5	14	15	20	16.6	20	100	Red	Black	—
MAZ7200-A	18.8	20.0											
MAZ7200-B	19.8	21.0											

■ Electrical characteristics within part numbers (continued) $T_a = 25^\circ\text{C}$

Part Number	Zener voltage			Reverse current		Operating resistance		Temperature coefficient of zener voltage		Terminal capacitance	Marking Symbol (Color indication)		
	V_Z			I_R		R_Z		S_Z		C_t (pF) ($V_R = 0$ V) $f = 1$ MHz			
	Min (V)	Max (V)	I_Z (mA)	Max (μA)	V_R (V)	Max (Ω)	I_Z (mA)	Typ (mV/ $^\circ\text{C}$)	I_Z (mA)	Typ	1st.	2nd.	3rd.
MAZ7220	20.8	23.3	10	5	15	20	10	18.6	10	95	Red	Red	—
MAZ7220-A	20.8	22.15											
MAZ7220-B	21.85	23.2											
MAZ7240	22.8	25.6	10	5	16	20	10	20.7	10	90	Red	Yellow	—
MAZ7240-A	22.8	24.35											
MAZ7240-B	24.15	25.6											
MAZ7270	25.1	28.9	10	2	18	25	10	23.8	10	85	Red	Purple	—
MAZ7270-A	25.1	27.0											
MAZ7270-B	26.9	28.9											
MAZ7300	28.0	32.0	10	2	20	25	10	26.9	10	80	Orange	Black	—
MAZ7300-A	28.0	30.1											
MAZ7300-B	29.9	32.0											
MAZ7330	31.0	35.0	10	2	22	30	10	30.0	10	75	Orange	Orange	—
MAZ7330-A	31.0	33.14											
MAZ7330-B	32.86	35.0											
MAZ7360	34.0	38.0	10	2	24	30	10	33.4	10	70	Orange	Blue	—
MAZ7360-A	34.0	36.16											
MAZ7360-B	35.84	38.0											
MAZ7390	37.0	41.0	10	5	26	50	10	36.3	10	65	Orange	White	—
MAZ7430	40.0	46.0	10	5	29	50	10	41.1	10	60	Yellow	Orange	—
MAZ7470	44.0	50.0	10	5	31	50	10	44.9	10	55	Yellow	Purple	—
MAZ7510	48.0	54.0	10	5	33	50	10	48.6	10	50	Green	Brown	—
MAZ7560	52.0	60.0	10	5	35	50	10	54.9	10	45	Green	Blue	—





Request for your special attention and precautions in using the technical information and semiconductors described in this material

- (1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technologies described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.
- (2) The technical information described in this material is limited to showing representative characteristics and applied circuit examples of the products. It does not constitute the warranting of industrial property, the granting of relative rights, or the granting of any license.
- (3) The products described in this material are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (4) The products and product specifications described in this material are subject to change without notice for reasons of modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage and heat radiation characteristics. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, redundant design is recommended, so that such equipment may not violate relevant laws or regulations because of the function of our products.
- (6) When using products for which dry packing is required, observe the conditions (including shelf life and after-unpacking standby time) agreed upon when specification sheets are individually exchanged.
- (7) No part of this material may be reprinted or reproduced by any means without written permission from our company.

Please read the following notes before using the datasheets

- A. These materials are intended as a reference to assist customers with the selection of Panasonic semiconductor products best suited to their applications.
Due to modification or other reasons, any information contained in this material, such as available product types, technical data, and so on, is subject to change without notice.
Customers are advised to contact our semiconductor sales office and obtain the latest information before starting precise technical research and/or purchasing activities.
- B. Panasonic is endeavoring to continually improve the quality and reliability of these materials but there is always the possibility that further rectifications will be required in the future. Therefore, Panasonic will not assume any liability for any damages arising from any errors etc. that may appear in this material.
- C. These materials are solely intended for a customer's individual use.
Therefore, without the prior written approval of Panasonic, any other use such as reproducing, selling, or distributing this material to a third party, via the Internet or in any other way, is prohibited.