

MAZ8xxx Series (MA8000 Series)

Silicon planar type

For stabilization of power supply

■ Features

- Extremely low noise voltage caused from the diode (2.4 V to 39V, 1/3 to 1/10 of our conventional MAZ3xxx series)
- Extremely good rising performance (in the low-current range)
- Easy-to-select the optimum diode because of their finely divided zener-voltage ranks
- Guaranteed reliability, equivalent to that of conventional products (Mini type package)
- Allowing to reduce the mounting area, thickness and weight substantially, compared with those of the conventional products
- Allowing both reflow and flow mode of automatic soldering
- Allowing automatic mounting by an existing chip mounter

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

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	I_{FRM}	200	mA
Power dissipation *	P_D	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $P_D = 150$ mW achieved with a printed circuit board

■ Common Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$ *1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F = 10$ mA		0.9	1.0	V
Zener voltage *2	V_Z	I_Z Specified value				V
Zener rise operating resistance	R_{ZK}	I_Z Specified value	Refer to the list of the electrical characteristics within part numbers			Ω
Zener 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/ $^\circ\text{C}$

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

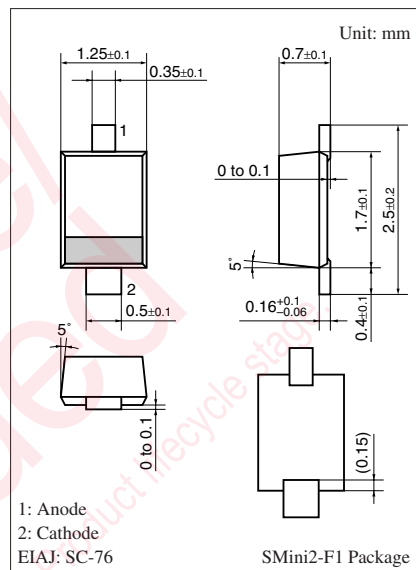
2. Absolute frequency of input and output is 5 MHz.

3. *1: The temperature must be controlled 25°C for V_Z measurement.

V_Z value measured at other temperature must be adjusted to $V_Z (25^\circ\text{C})$

*2: V_Z guaranteed 20 ms after current flow.

*3: $T_j = 25^\circ\text{C}$ to 150°C



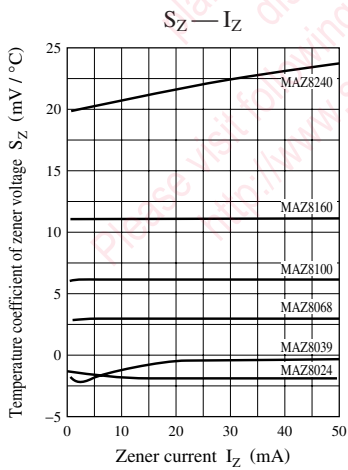
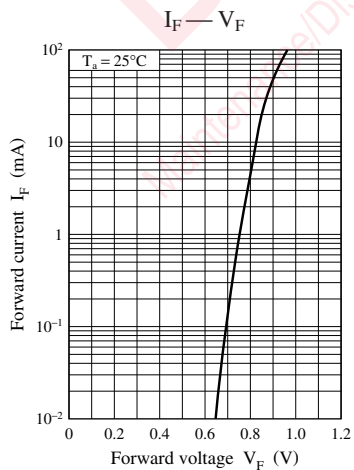
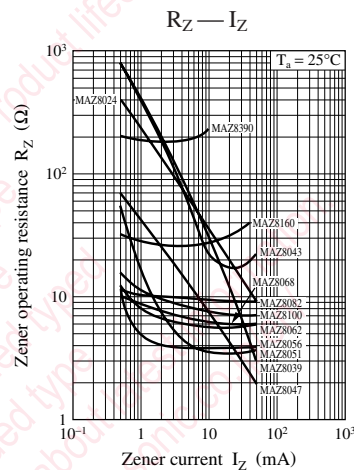
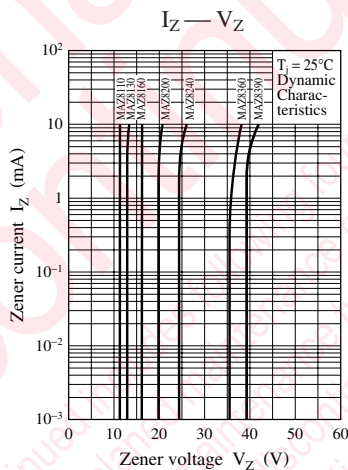
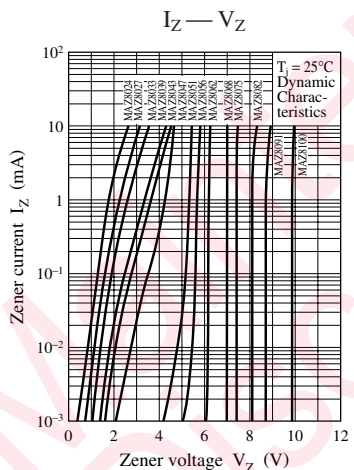
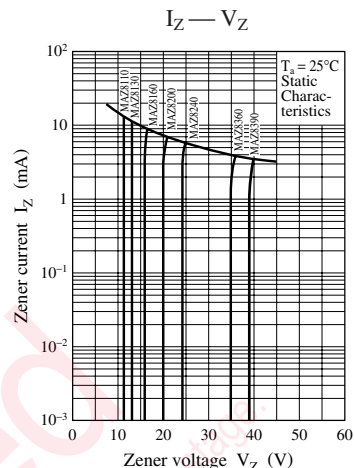
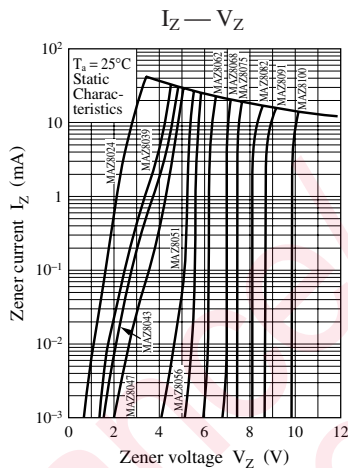
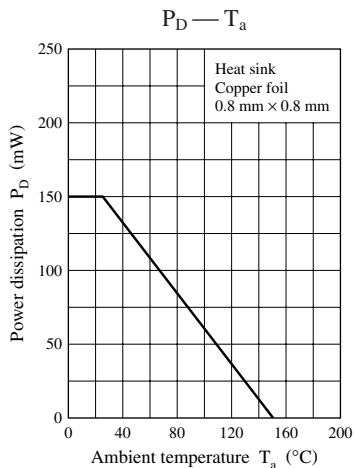
Marking Symbol

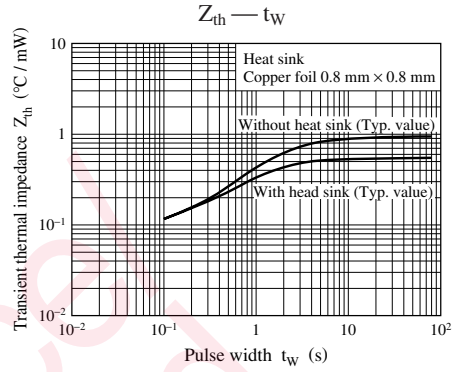
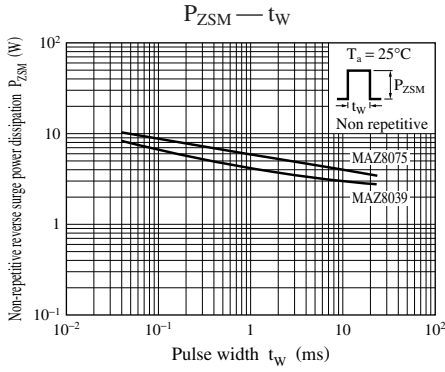
Refer to the list of the electrical characteristics within part numbers
(Example) MAZ8082: 8_2 or 8-2 or 8^2

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

■ Electrical Characteristics within Part Numbers $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Part number	Zener voltage			Reverse current		Zener operating resistance		Zener rise operating resistance		Temperature coefficient of zener voltage		Marking symbol	Conventional products	
	V_Z (V)			I_R (μA)		R_Z (Ω)		R_{ZK} (Ω)		S_Z (mV/ $^\circ\text{C}$)				
	Min	Nom	Max	I_Z (mA)	V_R (V)	Max	I_Z (mA)	Max	I_Z (mA)	Typ	I_Z (mA)			
MAZ8024	2.28	2.40	2.60	5	120	1.0	100	5	—	—	-1.6	5	2.4	MAZ3024
MAZ8027	2.50	2.70	2.90	5	120	1.0	110	5	—	—	-2.0	5	2_7or2^7	MAZ3027
MAZ8030	2.80	3.00	3.20	5	50	1.0	120	5	—	—	-2.1	5	3_0or3^0	MAZ3030
MAZ8033	3.10	3.30	3.50	5	20	1.0	130	5	—	—	-2.4	5	3_3or3^3	MAZ3033
MAZ8036	3.40	3.60	3.80	5	10	1.0	130	5	—	—	-2.4	5	3_6or3^6	MAZ3036
MAZ8039	3.70	3.90	4.10	5	10	1.0	130	5	—	—	-2.5	5	3_9or3^9	MAZ3039
MAZ8043	4.00	4.30	4.60	5	10	1.0	130	5	—	—	-2.5	5	4_3or4-3or4^3	MAZ3043
MAZ8047	4.40	4.70	5.00	5	2.0	1.0	80	5	800	1.0	-1.4	5	4_7or4-7or4^7	MAZ3047
MAZ8051	4.80	5.10	5.40	5	1.0	2.0	60	5	500	1.0	-0.8	5	5_1or5-1or5^1	MAZ3051
MAZ8056	5.30	5.60	6.00	5	0.5	2.5	40	5	200	0.5	1.2	5	5_6or5-6or5^6	MAZ3056
MAZ8062	5.80	6.20	6.60	5	0.2	4.0	30	5	100	0.5	2.3	5	6_2or6-2or6^2	MAZ3062
MAZ8068	6.40	6.80	7.20	5	0.1	4.0	20	5	60	0.5	3.0	5	6_8or6-8or6^8	MAZ3068
MAZ8075	7.00	7.50	7.90	5	0.1	5.0	20	5	60	0.5	4.0	5	7_5or7-5or7^5	MAZ3075
MAZ8082	7.70	8.20	8.70	5	0.1	5.0	20	5	60	0.5	4.6	5	8_2or8-2or8^2	MAZ3082
MAZ8091	8.50	9.10	9.60	5	0.1	6.0	20	5	60	0.5	5.5	5	9_1or9-1or9^1	MAZ3091
MAZ8100	9.40	10.00	10.60	5	0.05	7.0	30	5	60	0.5	6.4	5	10_or10-or10^A	MAZ3100
MAZ8110	10.40	11.00	11.60	5	0.05	8.0	30	5	60	0.5	7.4	5	11_or11-or11^A	MAZ3110
MAZ8120	11.40	12.00	12.70	5	0.05	9.0	30	5	80	0.5	8.4	5	12_or12-or12^A	MAZ3120
MAZ8130	12.40	13.00	14.10	5	0.05	10.0	35	5	80	0.5	9.4	5	13_or13-or13^A	MAZ3130
MAZ8140	13.65	14.00	14.35	5	0.05	10.0	40	5	80	0.5	10.0	5	14-	MAZ31400M
MAZ8150	13.90	15.00	15.60	5	0.05	11.0	40	5	80	0.5	11.4	5	15_or15-or15^A	MAZ3150
MAZ8160	15.30	16.00	17.10	5	0.05	12.0	50	5	80	0.5	12.4	5	16_or16-or16^A	MAZ3160
MAZ8180	16.90	18.00	19.10	5	0.05	13.0	60	5	80	0.5	14.4	5	18_or18-or18^A	MAZ3180
MAZ8200	18.80	20.00	21.20	5	0.05	15.0	80	5	100	0.5	16.4	5	20_or20-or20^A	MAZ3200
MAZ8220	20.80	22.00	23.30	5	0.05	17.0	80	5	100	0.5	18.4	5	22_or22-or22^A	MAZ3220
MAZ8240	22.80	24.00	25.60	5	0.05	19.0	100	5	120	0.5	20.4	5	24_or24-or24^A	MAZ3240
MAZ8270	25.10	27.00	28.90	2	0.05	21.0	120	2	120	0.5	23.4	2	27_or27-or27^A	MAZ3270
MAZ8300	28.00	30.00	32.00	2	0.05	23.0	160	2	160	0.5	26.6	2	30_or30-or30^A	MAZ3300
MAZ8330	31.00	33.00	35.00	2	0.05	25.0	200	2	200	0.5	29.7	2	33_or33-or33^A	MAZ3330
MAZ8360	34.00	36.00	38.00	2	0.05	27.0	250	2	250	0.5	33.0	2	36_or36-or36^A	MAZ3360
MAZ8390	37.00	39.00	41.00	2	0.05	30.0	300	2	300	0.5	35.6	2	39_or39-or39^A	—





Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.

planned maintenance type

planned discontinued type

discontinued type

Please visit following URL about latest information.

<http://www.semicon.panasonic.co.jp/en/>

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

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products, and no license is granted under any intellectual property right or other right owned by our company or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book 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 book are subject to change without notice for 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 range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. 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, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.