MAZ8xxxG 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

■ Package

- Code
  SMini2-F3
- Pin Name
  1: Anode
  2: Cathode

■ Marking symbol

Refer to the list of the electrical characteristics within part numbers

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	I_{FRM}	200	mA
Total power dissipation *	P_T	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

Note) *: P_T = 150 mW achieved with a printed circuit board.

■ Common Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions		Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 10 mA			0.9	1.0	V
Zener voltage *1	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 *2	S_Z	I_Z	Specified value				mV/°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. 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°C)
4. *1: V_Z guaranteed 20 ms after current flow.
*2: T_j = 25°C to 150°C

Maintenance/Discontinued
Maintenance/Discontinued includes following four Product lifecycle stage.
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■ Electrical Characteristics within Part Numbers T_a = 25°C±3°C

Part number	Zener voltage V_Z (V)				Reverse current I_R (μA)		Zener operating resistance R_Z (Ω)		Zener rise operating resistance R_{ZK} (Ω)		Temperature coefficient of zener voltage S_Z (mV/°C)		Marking symbol
	Min	Typ	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)	Max	I_Z (mA)	Typ	I_Z (mA)	
MAZ8024G0L	2.28	2.40	2.60	5	120	1.0	100	5			–1.6	5	2.4
MAZ8027G0L	2.50	2.70	2.90										2_7 or 2^7
MAZ8027GLL	2.50	2.60	2.75	5	120	1.0	110	5			–2.0	5	2_7
MAZ8027GHL	2.65	2.80	2.90										2^7
MAZ8030G0L	2.80	3.00	3.20										3_0 or 3^0
MAZ8030GLL	2.80	2.90	3.05	5	50	1.0	120	5			–2.1	5	3_0
MAZ8030GHL	2.95	3.10	3.20										3^0
MAZ8033G0L	3.10	3.30	3.50										3_3 or 3^3
MAZ8033GLL	3.10	3.20	3.35	5	20	1.0	130	5			–2.4	5	3_3
MAZ8033GHL	3.25	3.40	3.50										3^3
MAZ8036G0L	3.40	3.60	3.80										3_6 or 3^6
MAZ8036GLL	3.40	3.50	3.65	5	10	1.0	130	5			–2.4	5	3_6
MAZ8036GHL	3.55	3.70	3.80										3^6
MAZ8039G0L	3.70	3.90	4.10										3_9 or 3^9
MAZ8039GLL	3.70	3.80	3.97	5	10	1.0	130	5			–2.5	5	3_9
MAZ8039GHL	3.87	4.00	4.10										3^9
MAZ8043G0L	4.00	4.30	4.60										4_3, 4-3 or 4^3
MAZ8043GLL	4.03	4.10	4.26	5	10	1.0	130	5			–2.5	5	4_3
MAZ8043GML	4.17	4.30	4.40										4-3
MAZ8043GHL	4.31	4.40	4.54										4^3
MAZ8047G0L	4.40	4.70	5.00										4_7, 4-7 or 4^7
MAZ8047GLL	4.45	4.60	4.69	5	2.0	1.0	80	5	800	1.0	–1.4	5	4_7
MAZ8047GML	4.59	4.70	4.83										4-7
MAZ8047GHL	4.74	4.90	4.99										4^7
MAZ8051G0L	4.80	5.10	5.40										5_1, 5-1 or 5^1
MAZ8051GLL	4.87	5.00	5.12	5	1.0	2.0	60	5	500	1.0	– 0.8	5	5_1
MAZ8051GML	5.00	5.10	5.26										5-1
MAZ8051GHL	5.14	5.30	5.40										5^1
MAZ8056G0L	5.30	5.60	6.00										5_6, 5-6 or 5^6
MAZ8056GLL	5.30	5.40	5.58	5	0.5	2.5	40	5	200	0.5	1.2	5	5_6
MAZ8056GML	5.48	5.60	5.76										5-6
MAZ8056GHL	5.66	5.80	5.95										5^6
MAZ8062G0L	5.80	6.20	6.60										6_2, 6-2 or 6^2
MAZ8062GLL	5.85	6.00	6.15	5	0.2	4.0	30	5	100	0.5	2.3	5	6_2
MAZ8062GML	6.05	6.20	6.36										6-2
MAZ8062GHL	6.24	6.40	6.56										6^2
MAZ8068G0L	6.40	6.80	7.20										6_8, 6-8 or 6^8
MAZ8068GLL	6.44	6.60	6.77	5	0.1	4.0	20	5	60	0.5	3	5	6_8
MAZ8068GML	6.64	6.80	6.98										6-8
MAZ8068GHL	6.85	7.00	7.20										6^8

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■ Electrical Characteristics within Part Numbers (Continued) T_a = 25°C±3°C

Part number	Zener voltage V_Z (V)				Reverse current I_R (μA)		Zener operating resistance R_Z (Ω)		Zener rise operating resistance R_{ZK} (Ω)		Temperature coefficient of zener voltage S_Z (mV/°C)		Marking symbol
	Min	Typ	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)	Max	I_Z (mA)	Typ	I_Z (mA)	
MAZ8075G0L	7.00	7.50	7.90	5	0.1	5.0	20	5	60	0.5	4.0	5	7_5, 7-5 or 7^5
MAZ8075GLL	7.07	7.30	7.43										7_5
MAZ8075GML	7.29	7.50	7.67										7-5
MAZ8075GHL	7.51	7.70	7.89										7^5
MAZ8082G0L	7.70	8.20	8.70	5	0.1	5.0	20	5	60	0.5	4.6	5	8_2, 8-2 or 8^2
MAZ8082GLL	7.77	7.90	8.17										8_2
MAZ8082GML	8.03	8.20	8.43										8-2
MAZ8082GHL	8.29	8.50	8.70										8^2
MAZ8091G0L	8.50	9.10	9.60	5	0.1	6.0	20	5	60	0.5	5.5	5	9_1, 9-1 or 9^1
MAZ8091GLL	8.58	8.80	9.02										9_1
MAZ8091GML	8.87	9.10	9.33										9-1
MAZ8091GHL	9.14	9.40	9.60										9^1
MAZ8100G0L	9.40	10.00	10.60	5	0.05	7.0	30	5	60	0.5	6.4	5	10_, 10- or 10^
MAZ8100GLL	9.44	9.70	9.92										10_
MAZ8100GML	9.75	10.00	10.25										10-
MAZ8100GHL	10.07	10.30	10.59										10^
MAZ8110G0L	10.40	11.00	11.60	5	0.05	8.0	30	5	60	0.5	7.4	5	11_, 11- or 11^
MAZ8110GLL	10.40	10.70	10.94										11_
MAZ8110GML	10.73	11.00	11.28										11-
MAZ8110GHL	11.05	11.30	11.60										11^
MAZ8120G0L	11.40	12.00	12.70	5	0.05	9.0	30	5	80	0.5	8.4	5	12_, 12- or 12^
MAZ8120GLL	11.40	11.70	11.96										12_
MAZ8120GML	11.73	12.00	12.33										12-
MAZ8120GHL	12.06	12.30	12.68										12^
MAZ8130G0L	12.40	13.00	14.10	5	0.05	10.0	35	5	80	0.5	9.4	5	13_, 13- or 13^
MAZ8130GLL	12.40	12.70	12.99										13_
MAZ8130GML	12.73	13.00	13.40										13-
MAZ8130GHL	13.25	13.70	14.08										13^
MAZ8140GML	13.65	14.00	14.35	5	0.05	10.0	40	5	80	0.5	10.0	5	14-
MAZ8150G0L	13.90	15.00	15.60	5	0.05	11.0	40	5	80	0.5	11.4	5	15_, 15- or 15^
MAZ8150GLL	13.90	14.30	14.76										15_
MAZ8150GML	14.60	15.00	15.35										15-
MAZ8150GHL	14.95	15.30	15.60										15^
MAZ8160G0L	15.30	16.00	17.10	5	0.05	12.0	50	5	80	0.5	12.4	5	16_, 16- or 16^
MAZ8160GLL	15.30	15.70	16.09										16_
MAZ8160GML	15.70	16.00	16.50										16-
MAZ8160GHL	16.26	16.70	17.10										16^
MAZ8180G0L	16.90	18.00	19.10	5	0.05	13.0	60	5	80	0.5	14.4	5	18_, 18- or 18^
MAZ8180GLL	16.90	17.30	17.76										18_
MAZ8180GML	17.55	18.00	18.45										18-
MAZ8180GHL	18.20	18.70	19.10										18^

Maintenance/ Discontinued

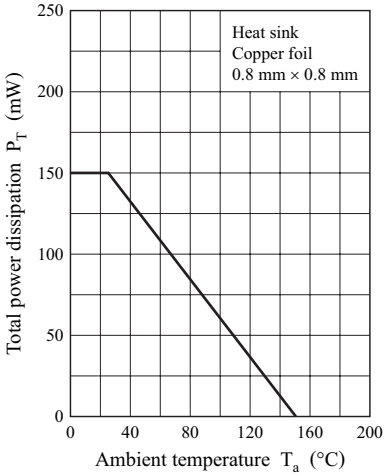
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■ Electrical Characteristics within Part Numbers (Continued) T_a = 25°C±3°C

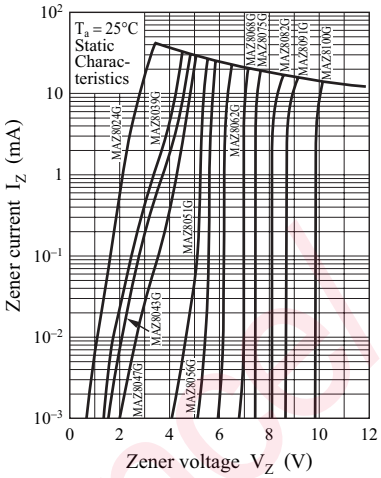
Part number	Zener voltage V_Z (V)				Reverse current I_R (μA)		Zener operating resistance R_Z (Ω)		Zener rise operating resistance R_{ZK} (Ω)		Temperature coefficient of zener voltage S_Z (mV/°C)		Marking symbol
	Min	Typ	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)	Max	I_Z (mA)	Typ	I_Z (mA)	
MAZ8200G0L	18.80	20.00	21.20	5	0.05	15.0	80	5	100	0.5	16.4	5	20_, 20- or 20^
MAZ8200GLL	18.85	19.30	19.81										20_
MAZ8200GML	19.50	20.00	20.50										20-
MAZ8200GHL	20.15	20.70	21.19										20^
MAZ8220G0L	20.80	22.00	23.30	5	0.05	17.0	80	5	100	0.5	18.4	5	22_, 22- or 22^
MAZ8220GLL	20.80	21.30	21.86										22_
MAZ8220GML	21.45	22.00	22.55										22-
MAZ8220GHL	22.10	22.70	23.24										22^
MAZ8240G0L	22.80	24.00	25.60	5	0.05	19.0	100	5	120	0.5	20.4	5	24_, 24- or 24^
MAZ8240GLL	22.80	23.30	23.97										24_
MAZ8240GML	23.50	24.00	24.70										24-
MAZ8240GHL	24.35	25.00	25.60										24^
MAZ8270G0L	25.10	27.00	28.90	2	0.05	21.0	120	2	120	0.5	23.4	2	27_, 27- or 27^
MAZ8270GLL	25.30	26.00	26.70										27_
MAZ8270GML	26.30	27.00	27.70										27-
MAZ8270GHL	27.30	28.00	28.70										27^
MAZ8300G0L	28.00	30.00	32.00	2	0.05	23.0	160	2	160	0.5	26.6	2	30_, 30- or 30^
MAZ8300GLL	28.30	29.00	29.70										30_
MAZ8300GML	29.30	30.00	30.80										30-
MAZ8300GHL	30.20	31.00	31.80										30^
MAZ8330G0L	31.00	33.00	35.00	2	0.05	25.0	200	2	200	0.5	29.7	2	33_, 33- or 33^
MAZ8330GLL	31.20	32.00	32.80										33_
MAZ8330GML	32.20	33.00	33.80										33-
MAZ8330GHL	33.20	34.00	34.90										33^
MAZ8360G0L	34.00	36.00	38.00	2	0.05	27.0	250	2	250	0.5	33.0	2	36_, 36- or 36^
MAZ8360GLL	34.10	35.00	35.90										36_
MAZ8360GML	35.10	36.00	36.90										36-
MAZ8360GHL	36.10	37.00	37.90										36^
MAZ8390G0L	37.00	39.00	41.00	2	0.05	30.0	300	2	300	0.5	35.6	2	39_, 39- or 39^
MAZ8390GLL	37.10	38.00	39.00										39_
MAZ8390GML	38.00	39.00	40.00										39-
MAZ8390GHL	39.00	40.00	41.00										39^

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planed maintenance type
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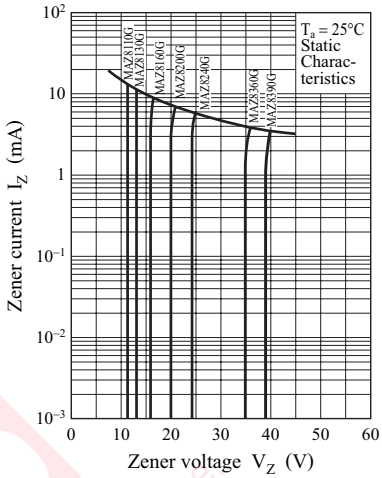
P_T — T_a



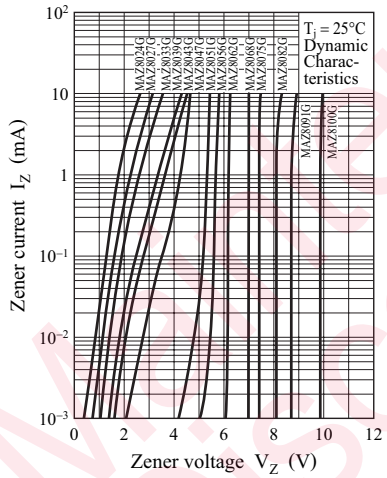
I_Z — V_Z



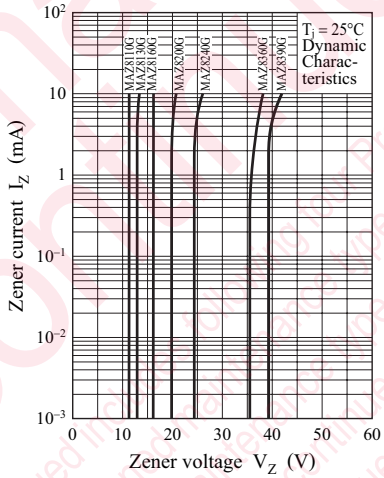
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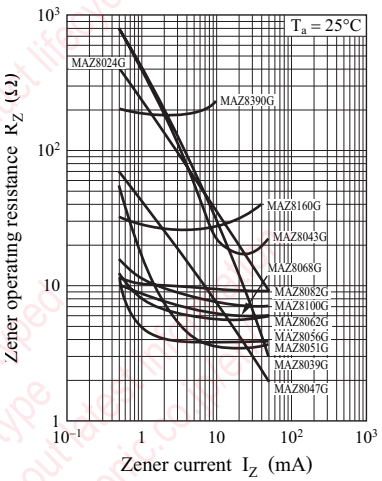
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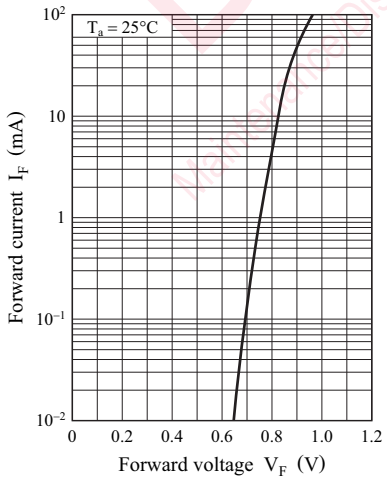
I_Z — V_Z



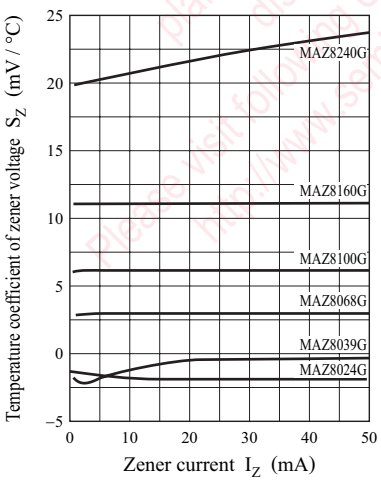
R_Z — I_Z



I_F — V_F

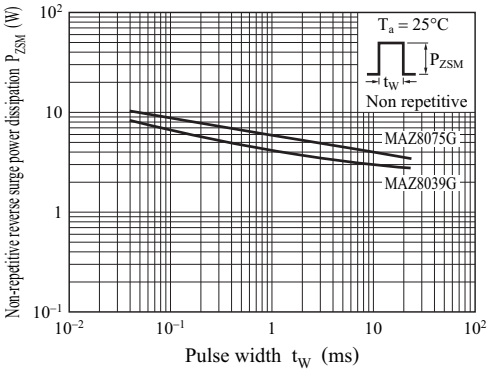


S_Z — I_Z

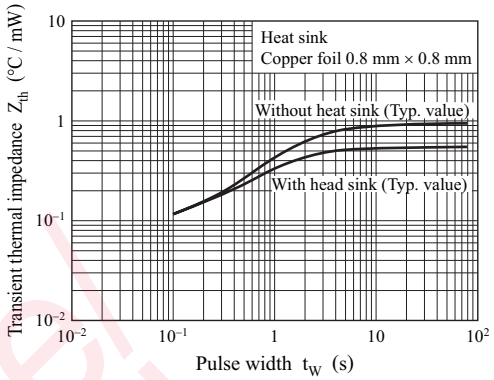


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P_{ZSM} — t_W



Z_{th} — t_W

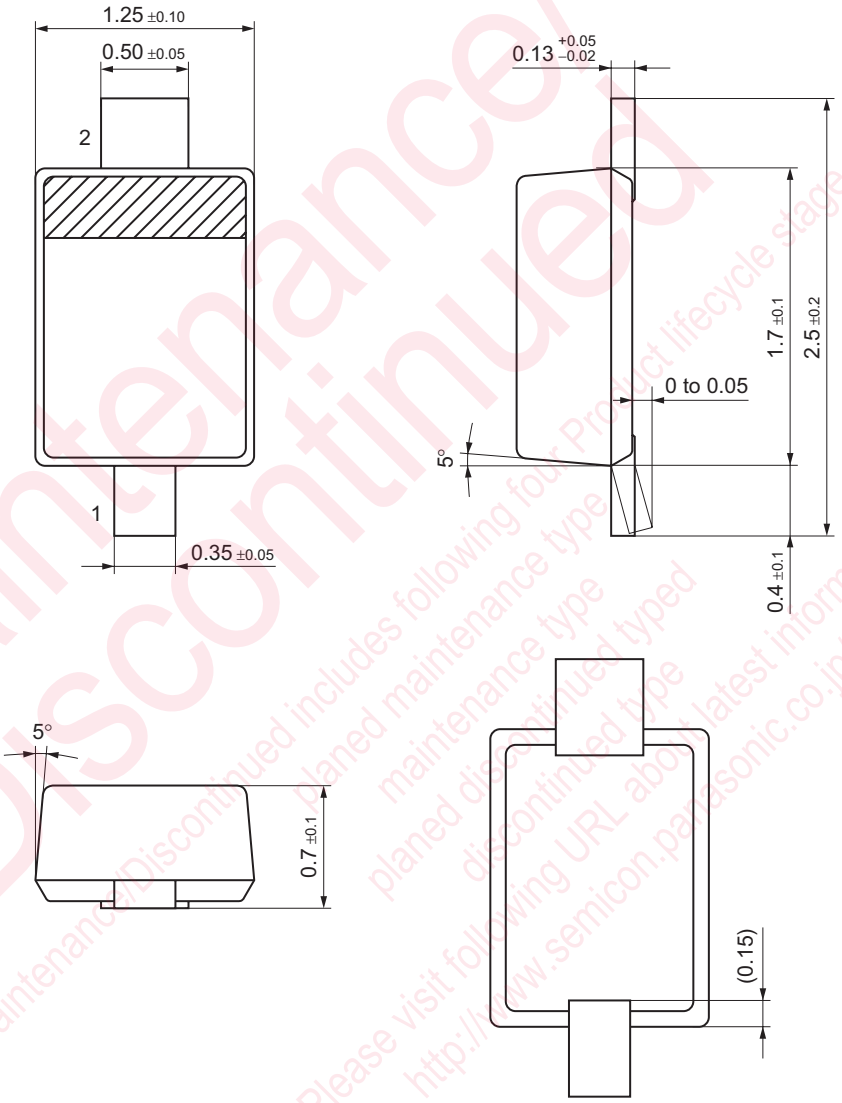


Maintenance/Discontinued

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SMini2-F3

Unit: mm



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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.

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