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
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Planed maintenance type
maintenance type
Planed discontinued typed
discontinued type
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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

Maintenance/ discontinued

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planed maintenance type
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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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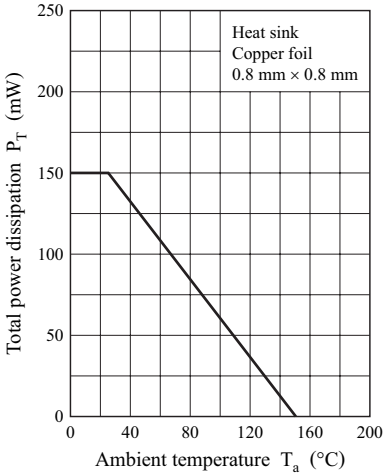
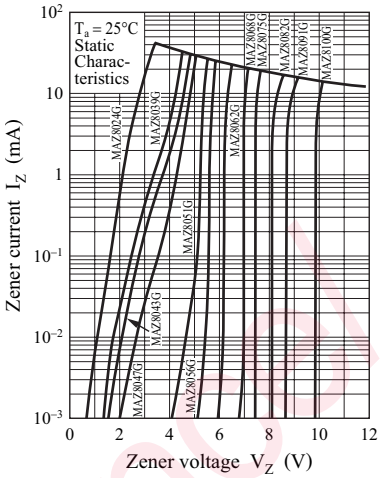
P_T — T_a



I_Z — V_Z



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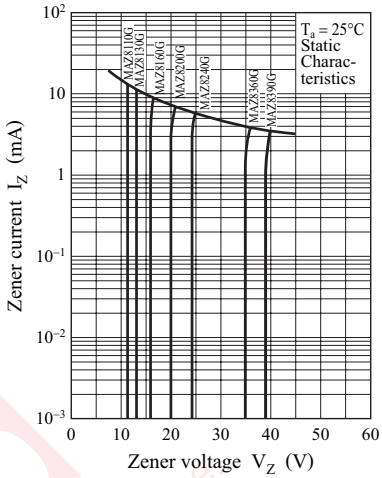

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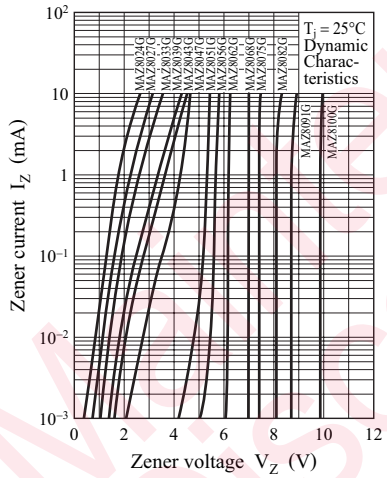
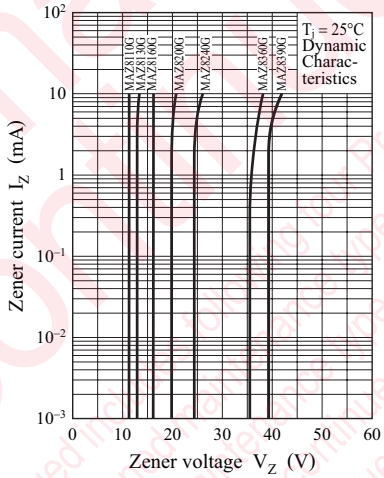
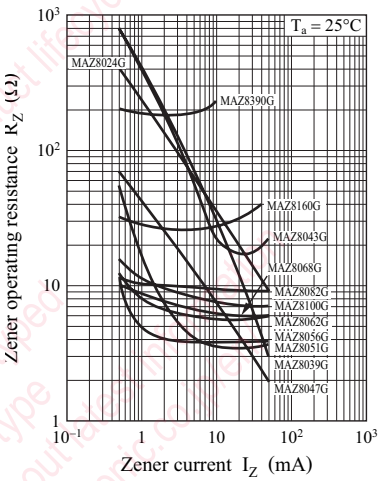


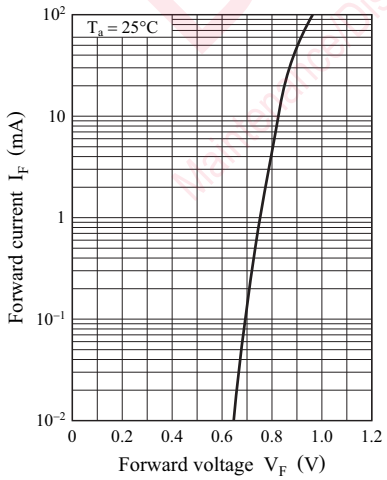
I_Z — V_Z



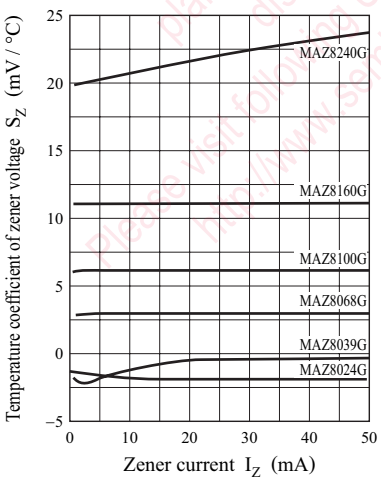
R_Z — I_Z



I_F — V_F

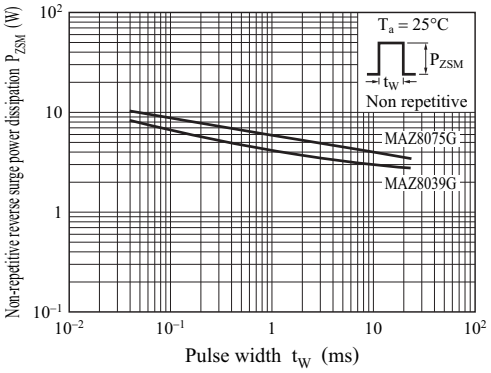


S_Z — I_Z

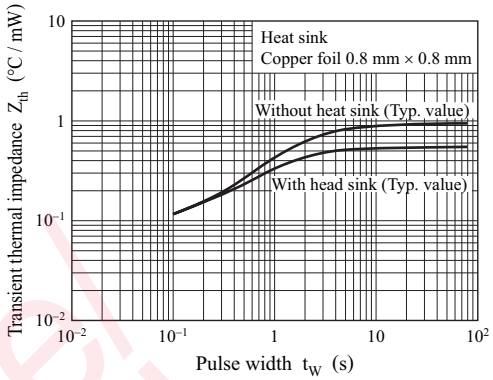


Maintenance/Discontinued

P_{ZSM} — t_W



Z_{th} — t_W



Maintenance/Discontinued

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planed maintenance type
maintenance type
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discontinued type
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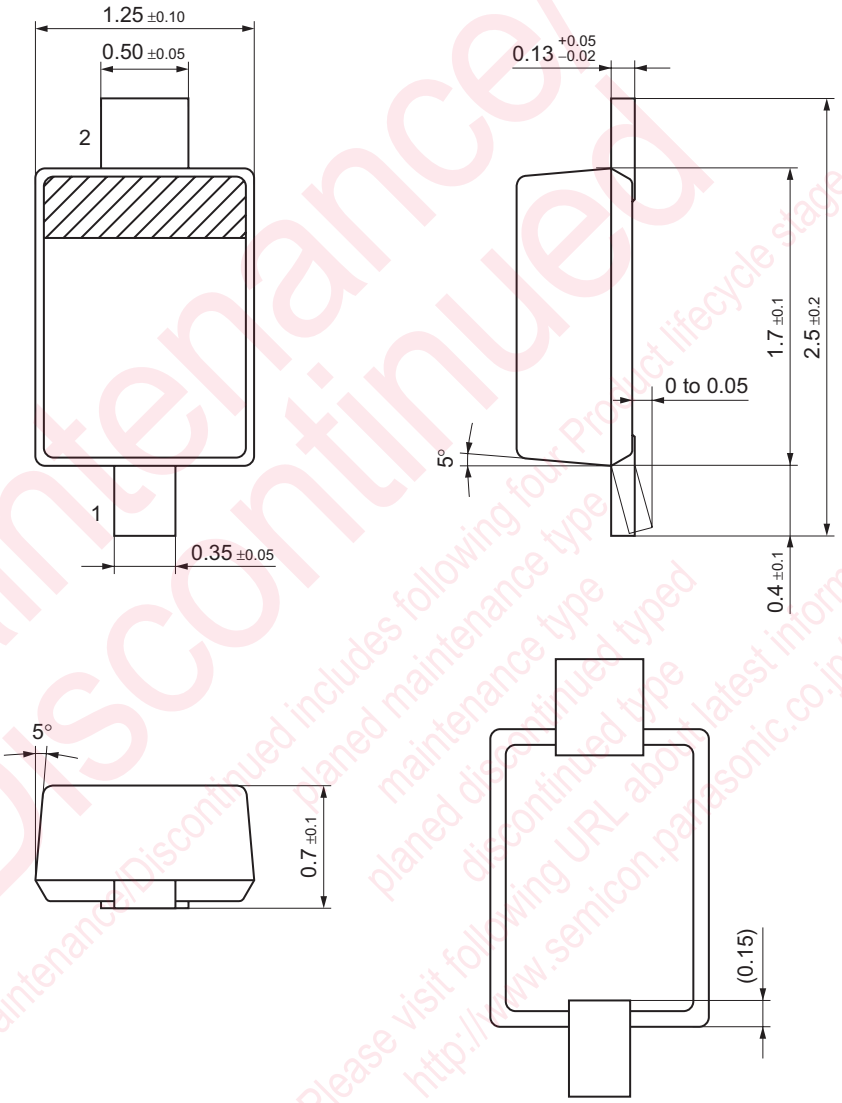
SMini2-F3

Unit: mm



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iles, traffic control equipment, combustion equipment, life support reliability are required, or if the failure or malfunction of the prod-

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bsolute maximum rating and the guaranteed operating conditions). Especially, please be careful not to exceed the range of absolute r-off and mode-switching. Otherwise, we will not be liable for any

take into the consideration of incidence of break down and failure n the systems such as redundant design, arresting the spread of fire al injury, fire, social damages, for example, by using the products.

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