

# MAZ2xxx Series (MA2xxx Series)

## Silicon planar type

For stabilization of power supply

### ■ Features

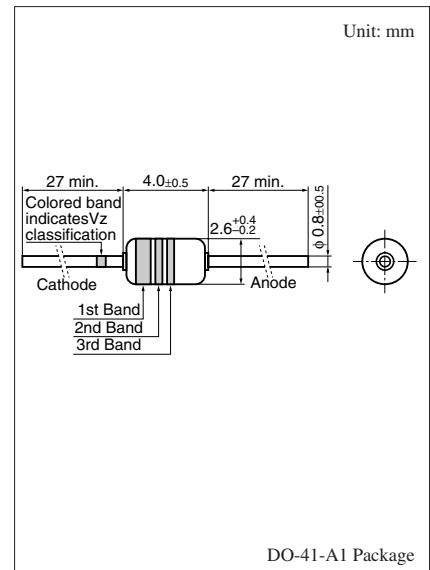
- High reliability, achieved by the combination the planar type and the glass seal
- Large power dissipation  $P_D$
- Wide voltage range: Zener voltage  $V_Z = 5.1\text{ V}$  to  $56.0\text{ V}$

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

Parameter	Symbol	Rating	Unit
Repetitive peak forward current	$I_{FRM}$	400	mA
Power dissipation *1	$P_D$	1.0	W
Non-repetitive reverse surge power dissipation *2	$P_{ZSM}$	75	W
Junction temperature	$T_j$	200	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +200	$^\circ\text{C}$

Note) \*1:  $P_D = 1.0\text{ W}$  achieved with a printed circuit board

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



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 200\text{ mA}$			1.0	V
Zener voltage *2	$V_Z$	$I_Z$ Specified value				V
Zener operating resistance	$R_Z$	$I_Z$ Specified value	Refer to the list of the electrical characteristics within part numbers			$\Omega$
Reverse current	$I_R$	$V_R$ Specified value	Refer to the list of the electrical characteristics within part numbers			$\mu\text{A}$
Temperature coefficient of zener voltage *3	$S_Z$	$I_Z$ Specified value	Refer to the list of the electrical characteristics within part numbers			$\text{mV}/^\circ\text{C}$
Terminal capacitance	$C_t$	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ Specified value				pF

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  $25^\circ\text{C}$  for  $V_Z$  measurement.

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

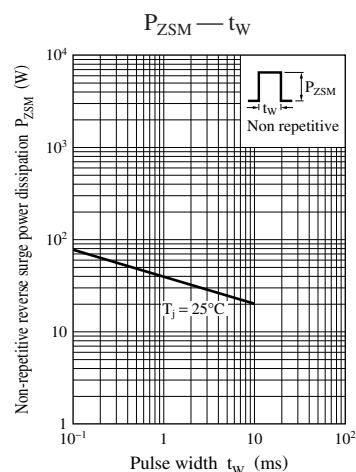
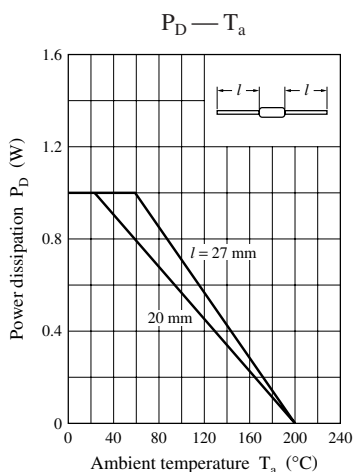
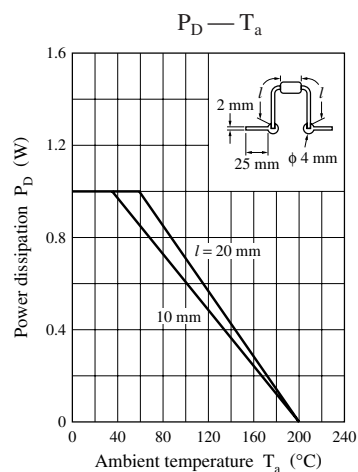
\*2:  $V_Z$  guaranteed 20 ms after current flow.

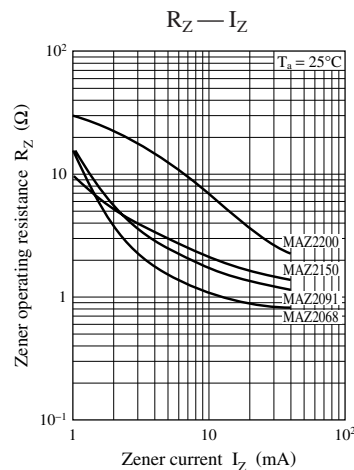
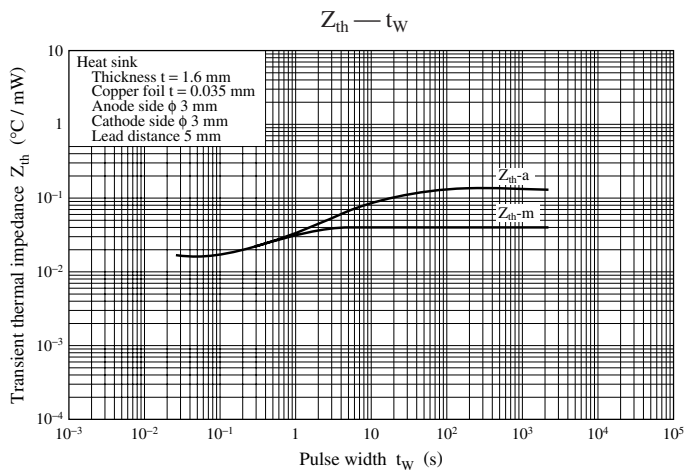
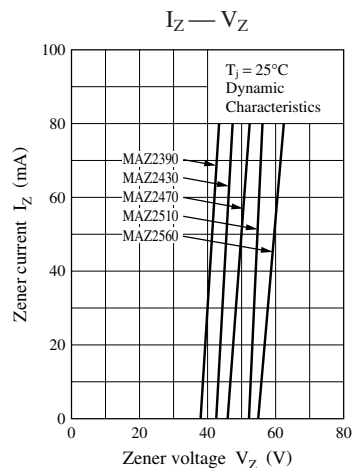
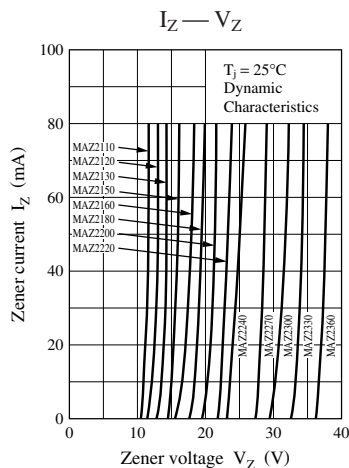
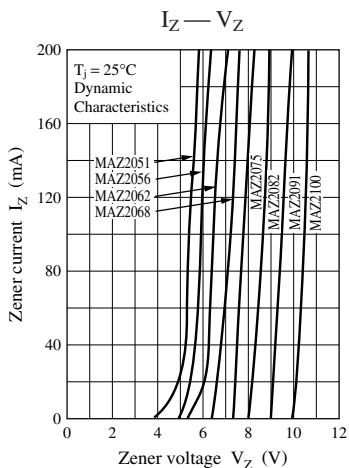
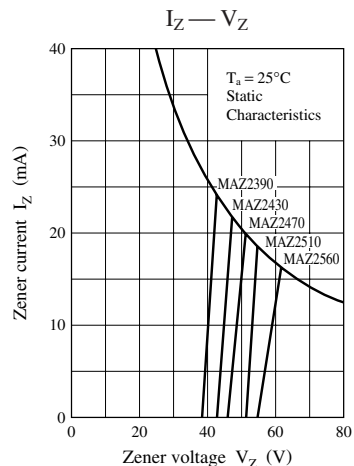
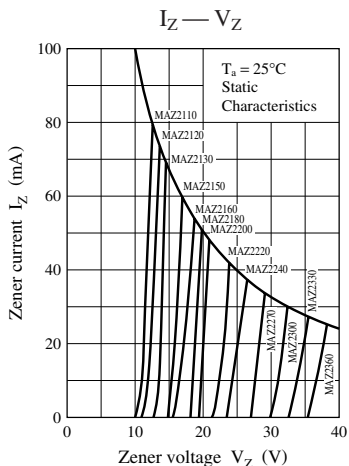
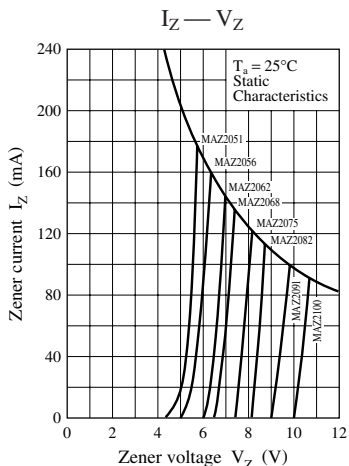
\*3:  $T_j = 25^\circ\text{C}$  to  $150^\circ\text{C}$

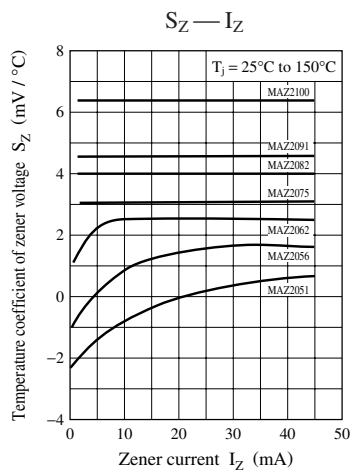
Note) The part number in the parenthesis shows conventional part number.

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

Part number	Zener voltage $V_Z$ (V)			Reverse current $I_R$ ( $\mu\text{A}$ )		Zener operating resistance $R_Z$ ( $\Omega$ )		Temperature coefficient of zener voltage $S_Z$ ( $\text{mV}/^\circ\text{C}$ )		Terminal capacitance $C_t$ (pF) ( $V_R = 0$ V) $f = 1$ MHz Typ	Marking symbol (Color indication)		
	$I_Z$ (mA)	Min	Max	$V_R$ (V)	Max	$I_Z$ (mA)	Max	$I_Z$ (mA)	Typ		1st.	2nd.	3rd.
MAZ2051	40	4.80	5.40	1	20	40	10	40	0	200	Green	Brown	Brown
MAZ2056	40	5.20	6.00	2	20	40	8	40	1.5	180	Green	Blue	Blue
MAZ2062	40	5.80	6.60	3	20	40	6	40	2.4	330	Blue	Red	Red
MAZ2068	40	6.40	7.20	3	10	40	6	40	3.1	280	Blue	Gray	Gray
MAZ2075	40	7.00	7.90	3	10	40	5	40	3.8	250	Purple	Green	Green
MAZ2082	40	7.70	8.70	4	10	40	5	40	4.5	230	Gray	Red	Red
MAZ2091	40	8.50	9.60	5	10	40	6	40	5.4	220	White	Brown	Brown
MAZ2100	40	9.40	10.60	7	10	40	6	40	6.3	200	Brown	Black	—
MAZ2110	20	10.40	11.60	7	5	20	8	20	7.4	160	Brown	Brown	—
MAZ2120	20	11.40	12.70	8	5	20	8	20	8.4	160	Brown	Red	—
MAZ2130	20	12.40	14.10	9	5	20	10	20	9.4	155	Brown	Orange	—
MAZ2150	20	13.80	15.60	10	5	20	12	20	11.4	150	Brown	Green	—
MAZ2160	20	15.30	17.10	11	5	20	12	20	12.5	135	Brown	Blue	—
MAZ2180	20	16.80	19.10	12	5	20	15	20	14.5	110	Brown	Gray	—
MAZ2200	20	18.80	21.20	14	5	20	15	20	16.6	110	Red	Black	—
MAZ2220	10	20.80	23.30	15	5	10	20	10	18.6	95	Red	Red	—
MAZ2240	10	22.80	25.60	16	5	10	20	10	20.7	90	Red	Yellow	—
MAZ2270	10	25.10	28.90	18	2	10	25	10	23.8	85	Red	Purple	—
MAZ2300	10	28.00	32.00	20	2	10	25	10	26.9	80	Orange	Black	—
MAZ2330	10	31.00	35.00	22	2	10	30	10	30.0	75	Orange	Orange	—
MAZ2360	10	34.00	38.00	24	2	10	30	10	33.4	70	Orange	Blue	—
MAZ2390	10	37.00	41.00	26	5	10	50	10	36.3	65	Orange	White	—
MAZ2430	10	40.00	46.00	29	5	10	50	10	41.1	60	Yellow	Orange	—
MAZ2470	10	44.00	50.00	31	5	10	50	10	44.9	55	Yellow	Purple	—
MAZ2510	10	48.00	54.00	33	5	10	50	10	48.6	50	Green	Brown	—
MAZ2560	10	52.00	60.00	35	5	10	50	10	54.9	45	Green	Blue	—







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