

# MAZ5000 Series

## Silicon planar type

For stabilization of power supply

### ■ Features

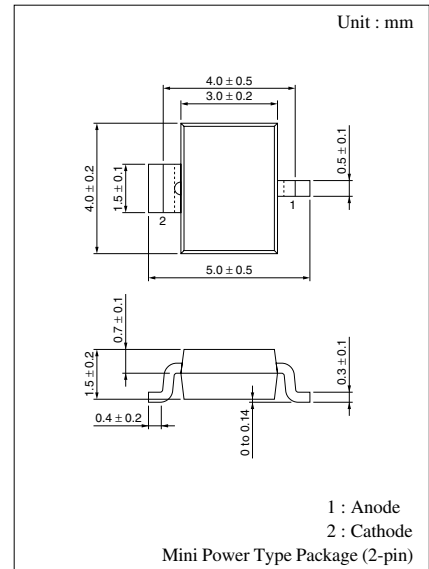
- Mini power type package (2-pin)
- Allowing automatic mounting with the emboss taping
- Sharp rising performance

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

Parameter	Symbol	Rating	Unit
Average forward current	$I_{F(AV)}$	250	mA
Instantaneous forward current	$I_{FRM}$	250	mA
Total power dissipation <sup>*1</sup>	$P_{tot}$	500	mW
Non-repetitive reverse surge power dissipation <sup>*2</sup>	$P_{ZSM}$	30	W
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +200	$^\circ\text{C}$

Note) \*1 : With a printed-circuit board

\*2 :  $t = 100 \mu\text{s}$ ,  $T_j = 125^\circ\text{C}$



### Marking Symbol

Refer to the list of the electrical characteristics within part numbers  
(Example) MAZ5047 : 4.7

### ■ Common Electrical Characteristics $T_a = 25^\circ\text{C}$ <sup>\*1</sup>

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 10 \text{ mA}$		0.8	0.9	V
Zener voltage <sup>*2</sup>	$V_Z$	$I_Z$ ..... Specified value				V
Operating resistance	$R_{ZK}$	$I_Z$ ..... Specified value				$\Omega$
	$R_Z$	$I_Z$ ..... Specified value				$\Omega$
Reverse current	$I_{R1}$	$V_R$ ..... Specified value				$\mu\text{A}$
	$I_{R2}$	$V_R$ ..... Specified value				$\mu\text{A}$
Temperature coefficient of zener voltage <sup>*3</sup>	$S_Z$	$I_Z$ ..... Specified value				$\text{mV}/^\circ\text{C}$
Terminal capacitance	$C_t$	$V_R$ ..... Specified value				pF

Note) 1. Rated input/output frequency: 50 MHz

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

\*2 : Guaranteed at 20 ms after power application.

\*3 :  $T_j = 25^\circ\text{C}$  to  $125^\circ\text{C}$

■ Electrical characteristics within part numbers  $V_Z \pm 5\%$   $T_a = 25^\circ\text{C}$

Part Number	Zener voltage			Reverse current			Operating resistance				Temperature coefficient of zener voltage			Terminal capacitance		Marking Symbol	
	$V_Z$ (V)			$I_{R1}$ (nA)	$I_{R2}$ ( $\mu\text{A}$ )		$R_Z$ ( $\Omega$ )		$R_{ZK}$ ( $\Omega$ )		$S_Z$ (mV/ $^\circ\text{C}$ )			$C_t$ (pF)			
	$I_Z = 5\text{ mA}$			$V_R$	$V_R$		$I_Z = 5\text{ mA}$		$I_Z$		$I_Z = 5\text{ mA}$			$(V_R = 0\text{ V})$			
	Min	Nom	Max	(V)	Max	(V)	Max	Typ	Max	(mA)	Max	Min	Typ	Max	Typ		Max
MAZ5047	4.4	4.7	5.0	1	3000	—	—	50	80	1	900	-3.5	-1.4	0.2	130	180	4.7
MAZ5051	4.8	5.1	5.4	2	2000	—	—	40	60	1	800	-2.7	-0.8	1.2	110	160	5.1
MAZ5056	5.3	5.6	6.0	2	1000	—	—	15	40	1	500	-2.0	1.2	2.5	95	140	5.6
MAZ5062	5.8	6.2	6.6	4	3000	5.3	60	6	20	0.5	300	0.4	2.3	3.7	90	130	6.2
MAZ5068	6.4	6.8	7.2	4	2000	5.9	60	6	15	0.5	140	1.2	3.0	4.5	85	110	6.8
MAZ5075	7.0	7.5	7.9	5	1000	6.5	60	6	15	0.5	120	2.5	4.0	5.3	80	100	7.5
MAZ5082	7.7	8.2	8.7	5	500	7.2	60	6	15	0.5	120	3.2	4.6	6.2	75	95	8.2
MAZ5091	8.5	9.1	9.6	6	200	8.0	60	6	15	0.5	130	3.8	5.5	7.0	70	90	9.1
MAZ5100	9.4	10.0	10.6	7	200	8.9	60	8	20	0.5	130	4.5	6.4	8.0	70	90	10
MAZ5110	10.4	11.0	11.6	7	100	9.9	60	10	20	0.5	170	5.4	7.4	9.0	65	85	11
MAZ5120	11.4	12.0	12.7	8	100	10.9	60	10	25	0.5	170	6.0	8.4	10.0	65	85	12
MAZ5130	12.4	13.0	14.1	9	100	11.9	60	10	30	0.5	170	7.0	9.4	11.0	60	80	13
MAZ5150	13.9	15.0	15.6	10	50	13.4	60	10	30	0.5	170	9.2	11.4	13.0	55	75	15
MAZ5160	15.3	16.0	17.1	11	50	14.8	60	10	40	0.5	170	10.4	12.4	14.0	52	75	16
MAZ5180	16.9	18.0	19.1	13	50	16.4	60	10	45	0.5	170	12.4	14.4	16.0	47	70	18
MAZ5200	18.8	20.0	21.2	14	50	18.3	60	15	55	0.5	180	14.4	16.4	18.0	36	60	20
MAZ5220	20.8	22.0	23.3	15	50	20.3	60	20	55	0.5	180	16.4	18.4	20.0	34	60	22
MAZ5240	22.8	24.0	25.6	17	50	22.3	60	25	70	0.5	180	18.4	20.4	22.0	33	55	24

Note) 1. The  $V_Z$  value is the one after power application for 20 ms at  $T_a = 25^\circ\text{C}$ .  
 2. The zener voltage temperature coefficient is the one for  $T_j = 25^\circ\text{C}$  to  $150^\circ\text{C}$ .

