

MAZ3000 Series

Silicon planar type

For stabilization of power supply

■ Features

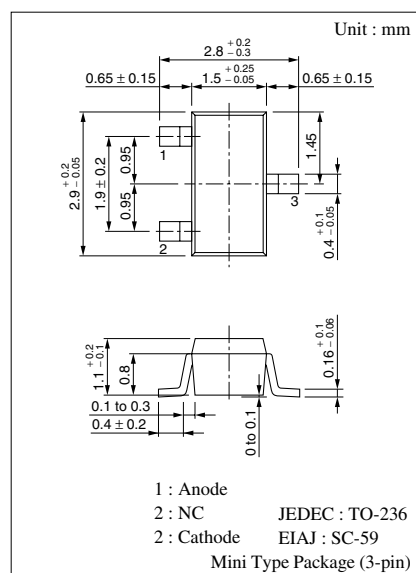
- Mini type package (3-pin)
- Allowing to achieve a high-density set
- Sharp rising performance
- Wide voltage range: $V_Z = 2.0$ V to 36 V

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

Parameter	Symbol	Rating	Unit
Average forward current	$I_{F(AV)}$	100	mA
Instantious forward current	I_{FRM}	200	mA
Total power dissipation ^{*1}	P_{tot}	200	mW
Non-repetitive reverse surge power dissipation ^{*2}	P_{ZSM}	15	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) ^{*1} : With a printed-circuit board

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



Marking Symbol

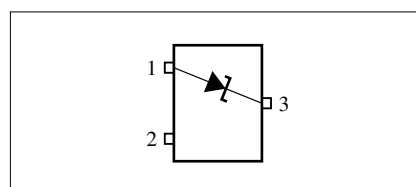
Refer to the list of the electrical characteristics within part numbers

(Example) MAZ3020: 2.0

MAZ3082-H: 8.2H

Note) L/M/H marked products will be supplied unless other wise specified

Internal Connection



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

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

Note) 1. Rated input/output frequency: 5 MHz

2. ^{*1} : The V_Z value is for the temperature of 25°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 150°C

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

• $V_Z = 2.0\text{ V to } 8.2\text{ V}$ ($I_Z = 5\text{ mA}$)

Part Number	Zener voltage			Reverse current				Operating resistance				Temperature coefficient of zener voltage			Terminal capacitance		Marking Symbol
	V _Z (V)			I _{R1} (μA)		I _{R2} (μA)		R _Z (Ω)		R _{ZK} (Ω)		S _Z (mV/°C)			C _t (pF)		
	I _Z = 5 mA			V _R	Max	V _R	Max	I _Z = 5 mA	Max	I _Z	Max	I _Z = 5 mA	Min	Typ	Max	(V _R = 0 V) f = 1 MHz	
MAZ3020	1.88	2.0	2.12	0.5	120	—	—	5	100	—	—	-3.5	-1.5	0	—	—	2.0
MAZ3022	2.08	2.2	2.32	0.7	120	—	—	5	100	—	—	-3.5	-1.5	0	—	—	2.2
MAZ3024	2.28	2.4	2.60	1	120	—	—	5	100	—	—	-3.5	-1.6	0	—	—	2.4
MAZ3027	2.50	2.7	2.90	1	120	—	—	5	110	—	—	-3.5	-2.0	0	—	—	2.7L or 2.7H
MAZ3027-L	2.50	2.6	2.75														2.7L
MAZ3027-H	2.65	2.8	2.90														2.7H
MAZ3030	2.80	3.0	3.20	1	50	—	—	5	120	—	—	-3.5	-2.1	0	—	—	3.0L or 3.0H
MAZ3030-L	2.80	2.9	3.05														3.0L
MAZ3030-H	2.95	3.1	3.20														3.0H
MAZ3033	3.10	3.3	3.50	1	20	—	—	5	130	—	—	-3.5	-2.4	0	—	—	3.3L or 3.3H
MAZ3033-L	3.10	3.2	3.35														3.3L
MAZ3033-H	3.25	3.4	3.50														3.3H
MAZ3036	3.40	3.6	3.80	1	10	—	—	5	130	—	—	-3.5	-2.4	0	—	—	3.6L or 3.6H
MAZ3036-L	3.40	3.5	3.65														3.6L
MAZ3036-H	3.55	3.7	3.80														3.6H
MAZ3039	3.70	3.9	4.10	1	10	—	—	5	130	—	—	-3.5	-2.5	0	—	—	3.9L or 3.9H
MAZ3039-L	3.70	3.8	3.97														3.9L
MAZ3039-H	3.87	4.0	4.10														3.9H
MAZ3043	4.00	4.3	4.60	1	10	—	—	5	130	—	—	-3.5	-2.5	0	—	—	4.3L or 4.3M or 4.3H
MAZ3043-L	4.03	4.1	4.26														4.3L
MAZ3043-M	4.17	4.3	4.40														4.3M
MAZ3043-H	4.31	4.4	4.54														4.3H
MAZ3047	4.4	4.7	5.0	1	3	—	—	50	80	1	900	-3.5	-1.4	0.2	130	180	4.7L or 4.7M or 4.7H
MAZ3047-L	4.45	4.6	4.69														4.7L
MAZ3047-M	4.59	4.7	4.83														4.7M
MAZ3047-H	4.74	4.9	4.99														4.7H
MAZ3051	4.8	5.1	5.4	2	2	—	—	40	60	1	800	-2.7	-0.8	1.2	110	160	5.1L or 5.1M or 5.1H
MAZ3051-L	4.87	5.0	5.12														5.1L
MAZ3051-M	5.0	5.1	5.26														5.1M
MAZ3051-H	5.14	5.3	5.4														5.1H
MAZ3056	5.3	5.6	6.0	2	1	—	—	15	40	1	500	-2	1.2	2.5	95	140	5.6L or 5.6M or 5.6H
MAZ3056-L	5.3	5.4	5.58														5.6L
MAZ3056-M	5.48	5.6	5.76														5.6M
MAZ3056-H	5.66	5.8	5.95														5.6H
MAZ3062	5.8	6.2	6.6	4	3	5.3	60	6	20	0.5	300	0.4	2.3	3.7	90	130	6.2L or 6.2M or 6.2H
MAZ3062-L	5.85	6.0	6.15														6.2L
MAZ3062-M	6.05	6.2	6.36														6.2M
MAZ3062-H	6.24	6.4	6.56														6.2H
MAZ3068	6.4	6.8	7.2	4	2	5.9	60	6	15	0.5	140	1.2	3	4.5	85	110	6.8L or 6.8M or 6.8H
MAZ3068-L	6.44	6.6	6.77														6.8L
MAZ3068-M	6.64	6.8	6.98														6.8M
MAZ3068-H	6.85	7.0	7.2														6.8H
MAZ3075	7.0	7.5	7.9	5	1	6.5	60	6	15	0.5	120	2.5	4	5.3	80	100	7.5L or 7.5M or 7.5H
MAZ3075-L	7.07	7.3	7.43														7.5L
MAZ3075-M	7.29	7.5	7.67														7.5M
MAZ3075-H	7.51	7.7	7.89														7.5H
MAZ3082	7.7	8.2	8.7	5	0.5	7.2	60	6	15	0.5	120	3.2	4.6	6.2	75	95	8.2L or 8.2M or 8.2H
MAZ3082-L	7.77	7.9	8.17														8.2L
MAZ3082-M	8.03	8.2	8.43														8.2M
MAZ3082-H	8.29	8.5	8.7														8.2H

■ Electrical characteristics within part numbers (continued) $T_a = 25^\circ\text{C}$

• $V_Z = 27\text{ V to } 36\text{ V}$ ($I_Z = 2\text{ mA}$)

Part Number	Zener voltage			Reverse current				Operating resistance				Temperature coefficient of zener voltage			Terminal capacitance		Marking Symbol
	V _Z (V)			I _{R1} (μA)		I _{R2} (μA)		R _Z (Ω)		R _{ZK} (Ω)		S _Z (mV/°C)			C _t (pF)		
	I _Z = 2 mA			V _R		V _R		I _Z = 2 mA		I _Z		I _Z = 2 mA			(V _R = 0 V)		
	Min	Nom	Max	(V)	Max	(V)	Max	Typ	Max	(mA)	Max	Min	Typ	Max	Typ	Max	
MAZ3270	25.1	27	28.9	19	0.05	24.8	60	25	80	0.5	200	21.4	23.4	25.3	30	50	27L or 27M or 27H
MAZ3270-L	25.3	26	26.7			24.8											27L
MAZ3270-M	26.3	27	27.7			25.8											27M
MAZ3270-H	27.3	28	28.7			26.8											27H
MAZ3300	28	30	32	21	0.05	27.8	60	30	80	0.5	200	24.4	26.6	29.4	27	50	30L or 30M or 30H
MAZ3300-L	28.3	29	29.7			27.8											30L
MAZ3300-M	29.3	30	30.8			28.8											30M
MAZ3300-H	30.2	31	31.8			29.7											30H
MAZ3330	31	33	35	23	0.05	30.7	60	35	80	0.5	200	27.4	29.7	33.4	25	45	33L or 33M or 33H
MAZ3300-L	31.2	32	32.8			30.7											33L
MAZ3330-M	32.2	33	33.8			31.7											33M
MAZ3300-H	33.2	34	34.9			32.7											33H
MAZ3360	34	36	38	25	0.05	33.6	60	35	90	0.5	200	30.4	33	37.4	23	45	36L or 36M or 36H
MAZ3360-L	34.1	35	35.9			33.6											36L
MAZ3360-M	35.1	36	36.9			34.6											36M
MAZ3360-H	36.1	37	37.9			35.6											36H

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°C .

