

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	MAZ32400ML
Manufacturer:	Panasonic Electronic Components
Package:	Please confirm with sales
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/panasonic-electronic-components/maz32400ml.html>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

MAZ3000 Series (MA3000 Series)

Silicon planar type

For stabilization of power supply

■ Features

- Mini type 3-pin package (Mini3-G1)
- Allowing to achieve a high-density set
- Sharp rising performance
- Wide voltage range: $V_Z = 2.0 \text{ V}$ to 36 V

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

Parameter	Symbol	Rating	Unit
Average forward current	$I_{F(AV)}$	100	mA
Repetitive peak 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
MAZ30820H: 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	$I_F = 10 \text{ mA}$		0.8	0.9	V
Zener voltage *2	V_Z	I_Z Specified value				V
Zener knee operating resistance	R_{ZK}	I_Z Specified value				Ω
Zener operating resistance	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

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

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

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

Part number	Zener voltage			Reverse current				Zener 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)		
	$I_Z = 5\text{ mA}$			V_R	Max	V_R	Max	$I_Z = 5\text{ mA}$	Max	I_Z	Max	$I_Z = 5\text{ mA}$	Min	Typ	Max	$(V_R = 0\text{ V})$ $f = 1\text{ MHz}$	
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
MAZ30270L	2.50	2.6	2.75														2.7L
MAZ30270H	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
MAZ30300L	2.80	2.9	3.05														3.0L
MAZ30300H	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
MAZ30330L	3.10	3.2	3.35														3.3L
MAZ30330H	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
MAZ30360L	3.40	3.5	3.65														3.6L
MAZ30360H	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
MAZ30390L	3.70	3.8	3.97														3.9L
MAZ30390H	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
MAZ30430L	4.03	4.1	4.26														4.3L
MAZ30430M	4.17	4.3	4.40														4.3M
MAZ30430H	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
MAZ30470L	4.45	4.6	4.69														4.7L
MAZ30470M	4.59	4.7	4.83														4.7M
MAZ30470H	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
MAZ30510L	4.87	5.0	5.12														5.1L
MAZ30510M	5.0	5.1	5.26														5.1M
MAZ30510H	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
MAZ30560L	5.3	5.4	5.58														5.6L
MAZ30560M	5.48	5.6	5.76														5.6M
MAZ30560H	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
MAZ30620L	5.85	6.0	6.15														6.2L
MAZ30620M	6.05	6.2	6.36														6.2M
MAZ30620H	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
MAZ30680L	6.44	6.6	6.77														6.8L
MAZ30680M	6.64	6.8	6.98														6.8M
MAZ30680H	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
MAZ30750L	7.07	7.3	7.43														7.5L
MAZ30750M	7.29	7.5	7.67														7.5M
MAZ30750H	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
MAZ30820L	7.77	7.9	8.17														8.2L
MAZ30820M	8.03																

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

• $V_Z = 9.1\text{ V to }24.0\text{ V}$ ($I_Z = 5\text{ mA}$)

Part number	Zener voltage			Reverse current				Zener operating resistance				Temperature coefficient of zener voltage			Terminal capacitance		Marking symbol
	V _Z (V) I _Z = 5 mA			I _{R1} (μA) V _R (V)		I _{R2} (μA) V _R (V)		R _Z (Ω) I _Z = 5 mA		R _{ZK} (Ω) I _Z (mA)		S _Z (mV/°C) I _Z = 5 mA			C _t (pF) (V _R = 0 V) f = 1 MHz		
	Min	Nom	Max	Max	Max	Max	Typ	Max	Max	Max	Min	Typ	Max	Typ	Max		
MA3091	8.5	9.1	9.6	6	0.2	8	60	6	15	0.5	130	3.8	5.5	7	70	90	9.1L or 9.1M or 9.1H
MAZ30910L	8.58	8.8	9.02			8											9.1L
MAZ30910M	8.87	9.1	9.33			8.3											9.1M
MAZ30910H	9.14	9.4	9.6			8.6											9.1H
MAZ3100	9.4	10	10.6	7	0.2	8.9	60	8	20	0.5	130	4.5	6.4	8	70	90	10L or 10M or 10H
MAZ31000L	9.44	9.7	9.92			8.9											10L
MAZ31000M	9.75	10	10.25			9.2											10M
MAZ31000H	10.07	10.3	10.59			9.5											10H
MAZ3110	10.4	11	11.6	7	0.1	9.9	60	10	20	0.5	170	5.4	7.4	9	65	85	11L or 11M or 11H
MAZ31100L	10.4	10.7	10.94			9.9											11L
MAZ31100M	10.73	11	11.28			10.2											11M
MAZ31100H	11.05	11.3	11.6			10.5											11H
MAZ3120	11.4	12	12.7	8	0.1	10.9	60	10	25	0.5	170	6	8.4	10	65	85	12L or 12M or 12H
MAZ31200L	11.4	11.7	11.96			10.9											12L
MAZ31200M	11.73	12	12.33			11.2											12M
MAZ31200H	12.06	12.3	12.68			11.5											12H
MAZ3130	12.4	13	14.1	9	0.1	11.9	60	10	30	0.5	170	7	9.4	11	60	80	13L or 13M or 13H
MAZ31300L	12.4	12.7	12.99			11.9											13L
MAZ31300M	12.73	13	13.4			12.2											13M
MAZ31300H	13.25	13.7	14.08			12.7											13H
MAZ31400M	13.65	14	14.35	9	0.1	13.1	60	10	30	0.5	170	7	10	13	60	80	14M
MAZ3150	13.9	15	15.6	10	0.05	13.4	60	10	30	0.5	170	9.2	11.4	13	55	75	15L or 15M or 15H
MAZ31500L	13.9	14.3	14.76			13.4											15L
MAZ31500M	14.6	15	15.35			14.1											15M
MAZ31500																	

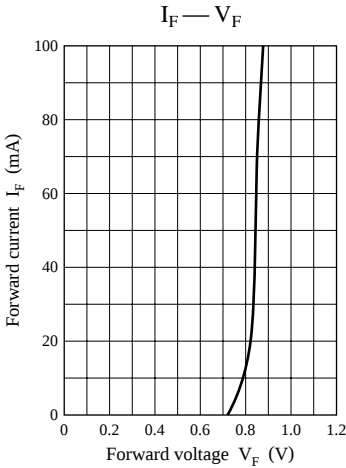
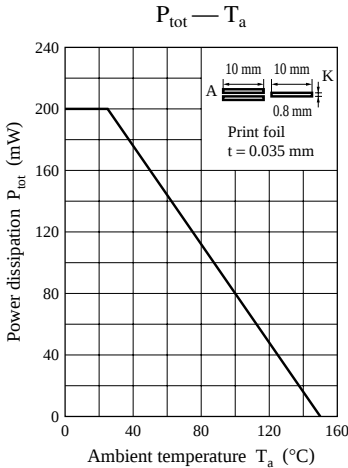
■ Electrical characteristics within part numbers (continued) $T_a = 25^\circ\text{C}$

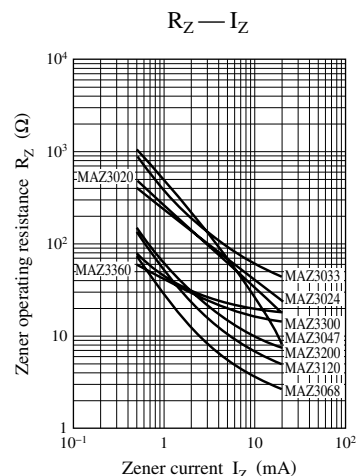
• $V_Z = 27.0\text{ V}$ to 36.0 V ($I_Z = 2\text{ mA}$)

Part number	Zener voltage			Reverse current				Zener 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
MAZ32700L	25.3	26	26.7			24.8											27L
MAZ32700M	26.3	27	27.7			25.8											27M
MAZ32700H	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
MAZ33000L	28.3	29	29.7			27.8											30L
MAZ33000M	29.3	30	30.8			28.8											30M
MAZ33000H	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
MAZ33300L	31.2	32	32.8			30.7											33L
MAZ33300M	32.2	33	33.8			31.7											33M
MAZ33300H	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
MAZ33600L	34.1	35	35.9			33.6											36L
MAZ33600M	35.1	36	36.9			34.6											36M
MAZ33600H	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 .







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