

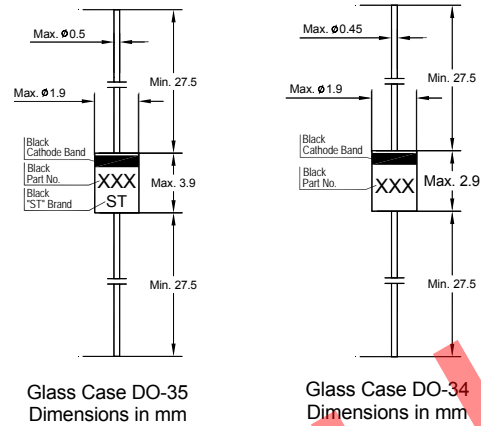
# MTZJ Series

## Silicon Epitaxial Planar Zener Diodes

Constant voltage control applications

### Features

- Glass sealed envelope
- High reliability

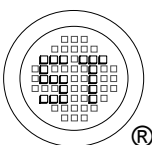


### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	500	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 65 to + 175	$^\circ\text{C}$

### Characteristics at $T_a = 25^\circ\text{C}$ ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>		Operating Resistance		Rising Operating Resistance		Reverse Current		
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$Z_{ZK}$	at $I_{ZK}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
MTZJ2V0A	1.88	2.1	5	100	5	1000	0.5	120	0.5
MTZJ2V0B	2.02	2.2	5	100	5	1000	0.5	120	0.5
MTZJ2V2A	2.12	2.3	5	100	5	1000	0.5	120	0.7
MTZJ2V2B	2.22	2.41	5	100	5	1000	0.5	120	0.7
MTZJ2V4A	2.33	2.52	5	100	5	1000	0.5	120	1
MTZJ2V4B	2.43	2.63	5	100	5	1000	0.5	120	1
MTZJ2V7A	2.54	2.75	5	110	5	1000	0.5	100	1
MTZJ2V7B	2.69	2.91	5	110	5	1000	0.5	100	1
MTZJ3V0A	2.85	3.07	5	120	5	1000	0.5	50	1
MTZJ3V0B	3.01	3.22	5	120	5	1000	0.5	50	1
MTZJ3V3A	3.16	3.38	5	120	5	1000	0.5	20	1
MTZJ3V3B	3.32	3.53	5	120	5	1000	0.5	20	1
MTZJ3V6A	3.455	3.695	5	100	5	1000	1	10	1
MTZJ3V6B	3.6	3.845	5	100	5	1000	1	10	1
MTZJ3V9A	3.74	4.01	5	100	5	1000	1	5	1
MTZJ3V9B	3.89	4.16	5	100	5	1000	1	5	1
MTZJ4V3A	4.04	4.29	5	100	5	1000	1	5	1
MTZJ4V3B	4.17	4.43	5	100	5	1000	1	5	1
MTZJ4V3C	4.3	4.57	5	100	5	1000	1	5	1
MTZJ4V7A	4.44	4.68	5	80	5	900	0.5	5	1
MTZJ4V7B	4.55	4.8	5	80	5	900	0.5	5	1
MTZJ4V7C	4.68	4.93	5	80	5	900	0.5	5	1



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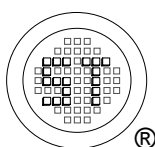


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# MTZJ Series

Characteristics at  $T_a = 25\text{ }^\circ\text{C}$  ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>		Operating Resistance		Rising Operating Resistance		Reverse Current		
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$Z_{ZK}$	at $I_{ZK}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
MTZJ5V1A	4.81	5.07	5	70	5	1200	0.5	5	1.5
MTZJ5V1B	4.94	5.2	5	70	5	1200	0.5	5	1.5
MTZJ5V1C	5.09	5.37	5	70	5	1200	0.5	5	1.5
MTZJ5V6A	5.28	5.55	5	40	5	900	0.5	5	2.5
MTZJ5V6B	5.45	5.73	5	40	5	900	0.5	5	2.5
MTZJ5V6C	5.61	5.91	5	40	5	900	0.5	5	2.5
MTZJ6V2A	5.78	6.09	5	30	5	500	0.5	5	3
MTZJ6V2B	5.96	6.27	5	30	5	500	0.5	5	3
MTZJ6V2C	6.12	6.44	5	30	5	500	0.5	5	3
MTZJ6V8A	6.29	6.63	5	20	5	150	0.5	2	3.5
MTZJ6V8B	6.49	6.83	5	20	5	150	0.5	2	3.5
MTZJ6V8C	6.66	7.01	5	20	5	150	0.5	2	3.5
MTZJ7V5A	6.85	7.22	5	20	5	120	0.5	0.5	4
MTZJ7V5B	7.07	7.45	5	20	5	120	0.5	0.5	4
MTZJ7V5C	7.29	7.67	5	20	5	120	0.5	0.5	4
MTZJ8V2A	7.53	7.92	5	20	5	120	0.5	0.5	5
MTZJ8V2B	7.78	8.19	5	20	5	120	0.5	0.5	5
MTZJ8V2C	8.03	8.45	5	20	5	120	0.5	0.5	5
MTZJ9V1A	8.29	8.73	5	20	5	120	0.5	0.5	6
MTZJ9V1B	8.57	9.01	5	20	5	120	0.5	0.5	6
MTZJ9V1C	8.83	9.3	5	20	5	120	0.5	0.5	6
MTZJ10A	9.12	9.59	5	20	5	120	0.5	0.2	7
MTZJ10B	9.41	9.9	5	20	5	120	0.5	0.2	7
MTZJ10C	9.7	10.2	5	20	5	120	0.5	0.2	7
MTZJ10D	9.94	10.44	5	20	5	120	0.5	0.2	7
MTZJ11A	10.18	10.71	5	20	5	120	0.5	0.2	8
MTZJ11B	10.5	11.05	5	20	5	120	0.5	0.2	8
MTZJ11C	10.82	11.38	5	20	5	120	0.5	0.2	8
MTZJ12A	11.13	11.71	5	25	5	110	0.5	0.2	9
MTZJ12B	11.44	12.03	5	25	5	110	0.5	0.2	9
MTZJ12C	11.74	12.35	5	25	5	110	0.5	0.2	9
MTZJ13A	12.11	12.75	5	25	5	110	0.5	0.2	10
MTZJ13B	12.55	13.21	5	25	5	110	0.5	0.2	10
MTZJ13C	12.99	13.66	5	25	5	110	0.5	0.2	10
MTZJ15A	13.44	14.13	5	25	5	110	0.5	0.2	11
MTZJ15B	13.89	14.62	5	25	5	110	0.5	0.2	11
MTZJ15C	14.35	15.09	5	25	5	110	0.5	0.2	11
MTZJ16A	14.8	15.57	5	25	5	150	0.5	0.2	12
MTZJ16B	15.25	16.04	5	25	5	150	0.5	0.2	12
MTZJ16C	15.69	16.51	5	25	5	150	0.5	0.2	12
MTZJ18A	16.22	17.06	5	30	5	150	0.5	0.2	13
MTZJ18B	16.82	17.7	5	30	5	150	0.5	0.2	13
MTZJ18C	17.42	18.33	5	30	5	150	0.5	0.2	13
MTZJ20A	18.02	18.96	5	30	5	200	0.5	0.2	15
MTZJ20B	18.63	19.59	5	30	5	200	0.5	0.2	15
MTZJ20C	19.23	20.22	5	30	5	200	0.5	0.2	15
MTZJ20D	19.72	20.72	5	30	5	200	0.5	0.2	15



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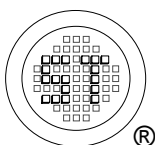


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Characteristics at  $T_a = 25\text{ }^\circ\text{C}$  ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>			Operating Resistance		Rising Operating Resistance		Reverse Current	
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$Z_{ZK}$	at $I_{ZK}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
MTZJ22A	20.15	21.2	5	30	5	200	0.5	0.2	17
MTZJ22B	20.64	21.71	5	30	5	200	0.5	0.2	17
MTZJ22C	21.08	22.17	5	30	5	200	0.5	0.2	17
MTZJ22D	21.52	22.63	5	30	5	200	0.5	0.2	17
MTZJ24A	22.05	23.18	5	35	5	200	0.5	0.2	19
MTZJ24B	22.61	23.77	5	35	5	200	0.5	0.2	19
MTZJ24C	23.12	24.31	5	35	5	200	0.5	0.2	19
MTZJ24D	23.63	24.85	5	35	5	200	0.5	0.2	19
MTZJ27A	24.26	25.52	5	45	5	250	0.5	0.2	21
MTZJ27B	24.97	26.26	5	45	5	250	0.5	0.2	21
MTZJ27C	25.63	26.95	5	45	5	250	0.5	0.2	21
MTZJ27D	26.29	27.64	5	45	5	250	0.5	0.2	21
MTZJ30A	26.99	28.39	5	55	5	250	0.5	0.2	23
MTZJ30B	27.7	29.13	5	55	5	250	0.5	0.2	23
MTZJ30C	28.36	29.82	5	55	5	250	0.5	0.2	23
MTZJ30D	29.02	30.51	5	55	5	250	0.5	0.2	23
MTZJ33A	29.68	31.22	5	65	5	250	0.5	0.2	25
MTZJ33B	30.32	31.88	5	65	5	250	0.5	0.2	25
MTZJ33C	30.9	32.5	5	65	5	250	0.5	0.2	25
MTZJ33D	31.49	33.11	5	65	5	250	0.5	0.2	25
MTZJ36A	32.14	33.79	5	75	5	250	0.5	0.2	27
MTZJ36B	32.79	34.49	5	75	5	250	0.5	0.2	27
MTZJ36C	33.4	35.13	5	75	5	250	0.5	0.2	27
MTZJ36D	34.01	35.77	5	75	5	250	0.5	0.2	27
MTZJ39A	34.68	36.47	5	85	5	250	0.5	0.2	30
MTZJ39B	35.36	37.19	5	85	5	250	0.5	0.2	30
MTZJ39C	36	37.85	5	85	5	250	0.5	0.2	30
MTZJ39D	36.63	38.52	5	85	5	250	0.5	0.2	30
MTZJ39E	37.36	39.29	5	85	5	250	0.5	0.2	30
MTZJ39F	38.14	40.11	5	85	5	250	0.5	0.2	30
MTZJ39G	38.94	40.8	5	85	5	250	0.5	0.2	30
MTZJ43	40	45	5	90	5	250	0.5	0.2	33
MTZJ47	44	49	5	90	5	250	0.5	0.2	36
MTZJ51	48	54	5	110	5	250	0.5	0.2	39
MTZJ56	53	60	5	110	5	250	0.5	0.2	43

<sup>1)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .



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Fig.1- Zener Characteristics

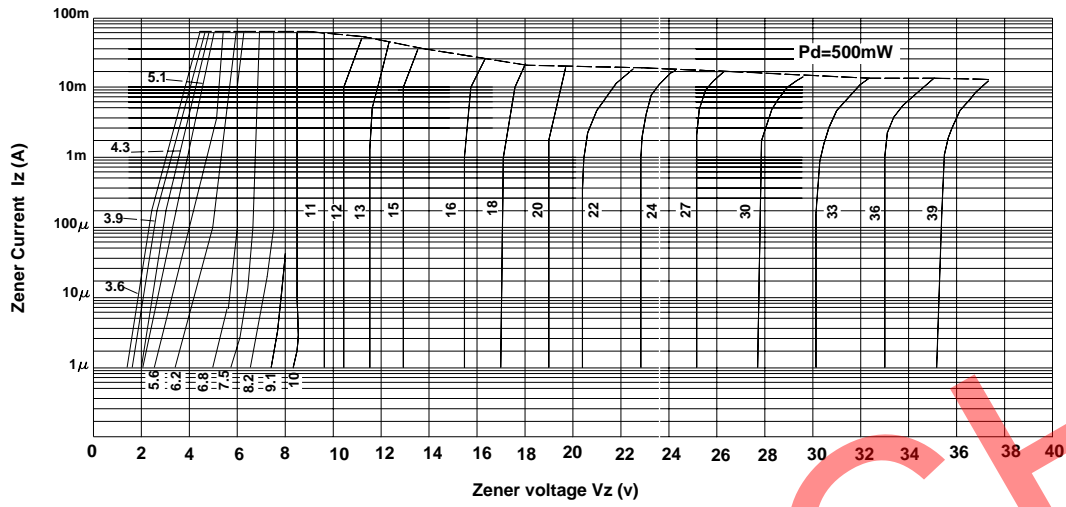


Fig. 2 Derating curve

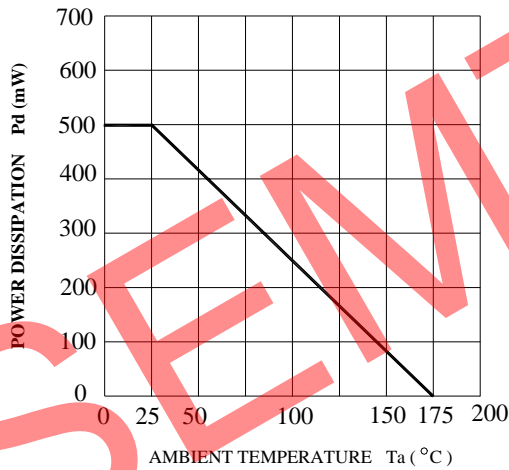
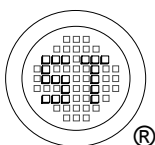
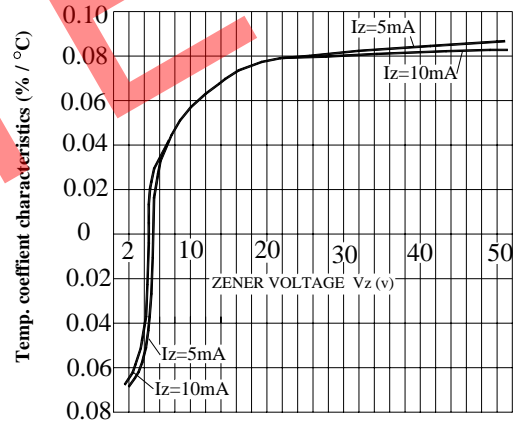


Fig. 3 Zener voltage temp. coefficient characteristics



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