



DATA SHEET

SEMICONDUCTOR

MTZJ2V0~39V

500 mW DO-34 Hermetically Sealed Glass Zener Voltage Regulators



AXIAL LEAD
DO34

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +200	$^\circ\text{C}$
Operating Junction Temperature	+175	$^\circ\text{C}$
Lead Temperature (1/16" from case for 10 seconds)	230	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

DEVICE MARKING DIAGRAM



xxx =Device Code TCMTZJxxx
T (tolerance) =A, B, C or D
Band color =Black

Specification Features:

- Zener Voltage Range 2.0 to 39 Volts
- DO-34 Package (JEDEC DO-204)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All external surfaces are corrosion resistant and leads are readily solderable
- RoHS Compliant
- Solder hot dip Tin (Sn) lead finish
- Cathode indicated by polarity band



ELECTRICAL SYMBOL

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	T Tolerance		V _Z @I _{ZT}			I _{zt} (mA)	Z _{zt} @I _{zt} (Ohms) Max	Z _{zk} @I _{zk} (Ohms) Max	I _{zk} (mA)	I _R @V _R (uA) Max	V _R (V)
			Min	Nom	Max						
MTZJ2V0	A	5.5%	1.880	1.990	2.100	5	100	1000	0.5	120	0.5
	B	4.3%	2.020	2.110	2.200						
MTZJ2V2	A	4.0%	2.120	2.210	2.300	5	100	1000	0.5	100	0.7
	B	4.1%	2.220	2.315	2.410						
MTZJ2V4	A	3.9%	2.330	2.425	2.520	5	100	1000	0.5	120	1.0
	B	4.0%	2.430	2.530	2.630						
MTZJ2V7	A	4.0%	2.540	2.645	2.750	5	110	1000	0.5	100	1.0
	B	3.9%	2.690	2.800	2.910						
MTZJ3V0	A	3.7%	2.850	2.960	3.070	5	120	1000	0.5	50	1.0
	B	3.4%	3.010	3.115	3.220						
MTZJ3V3	A	3.4%	3.160	3.270	3.380	5	120	1000	0.5	20	1.0
	B	3.1%	3.320	3.425	3.530						
MTZJ3V6	A	3.6%	3.455	3.575	3.695	5	100	1000	1	10	1.0
	B	3.3%	3.600	3.723	3.845						
MTZJ3V9	A	3.5%	3.740	3.875	4.010	5	100	1000	1	5	1.0
	B	3.3%	3.890	4.025	4.160						
MTZJ4V3	A	3.0%	4.040	4.165	4.290	5	100	1000	1	5	1.0
	B	3.0%	4.170	4.300	4.430						
	C	3.0%	4.300	4.435	4.570						

MTZJ2V0~39V

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	T Tolerance		V _Z @I _{Zt}			I _{Zt} (mA)	Z _t @I _{Zt} (Ohms) Max	Z _k @I _{Zk} (Ohms) Max	I _{Zk} (mA)	I _R @V _R (μ A) Max	V _R (V)
			Min	Nom	Max						
MTZJ4V7	A	2.6%	4.44	4.56	4.68	5	80	900	1	5	1.0
	B	2.8%	4.55	4.68	4.80						
	C	2.7%	4.68	4.81	4.93						
MTZJ5V1	A	2.6%	4.81	4.94	5.07	5	80	800	1	5	1.5
	B	2.6%	4.94	5.07	5.20						
	C	2.7%	5.09	5.23	5.37						
MTZJ5V6	A	2.4%	5.28	5.41	5.55	5	60	500	1	5	2.5
	B	2.5%	5.45	5.59	5.73						
	C	2.6%	5.61	5.76	5.91						
MTZJ6V2	A	2.7%	5.78	5.94	6.09	5	60	300	1	5	3.0
	B	2.6%	5.96	6.12	6.27						
	C	2.5%	6.12	6.28	6.44						
MTZJ6V8	A	2.6%	6.29	6.46	6.63	5	20	150	0.5	2	3.5
	B	2.6%	6.49	6.66	6.83						
	C	2.6%	6.66	6.84	7.01						
MTZJ7V5	A	2.7%	6.85	7.04	7.22	5	20	120	0.5	0.5	4.0
	B	2.6%	7.07	7.26	7.45						
	C	2.5%	7.29	7.48	7.67						
MTZJ8V2	A	2.6%	7.53	7.73	7.92	5	20	120	0.5	0.5	5.0
	B	2.6%	7.78	7.99	8.19						
	C	2.5%	8.03	8.24	8.45						
MTZJ9V1	A	2.6%	8.29	8.51	8.73	5	25	120	0.5	0.5	6.0
	B	2.5%	8.57	8.79	9.01						
	C	2.6%	8.83	9.07	9.30						
MTZJ10V	A	2.6%	9.12	9.36	9.59	5	30	120	0.5	0.2	7.0
	B	2.6%	9.41	9.66	9.90						
	C	2.5%	9.70	9.95	10.20						
	D	2.5%	9.94	10.19	10.44						
MTZJ11V	A	2.6%	10.18	10.45	10.71	5	30	120	0.5	0.2	8.0
	B	2.6%	10.50	10.78	11.05						
	C	2.5%	10.82	11.10	11.38						
MTZJ12V	A	2.5%	11.13	11.42	11.71	5	30	110	0.5	0.2	9.0
	B	2.6%	11.44	11.74	12.03						
	C	2.6%	11.74	12.05	12.35						
MTZJ13V	A	2.6%	12.11	12.43	12.75	5	35	110	0.5	0.2	10
	B	2.6%	12.55	12.88	13.21						
	C	2.6%	12.99	13.33	13.66						
MTZJ15V	A	2.5%	13.44	13.79	14.13	5	40	110	0.5	0.2	11
	B	2.6%	13.89	14.26	14.62						
	C	2.5%	14.35	14.72	15.09						
MTZJ16V	A	2.6%	14.80	15.19	15.57	5	40	150	0.5	0.2	12
	B	2.6%	15.25	15.65	16.04						
	C	2.5%	15.69	16.10	16.51						
MTZJ18V	A	2.5%	16.22	16.64	17.06	5	45	150	0.5	0.2	13
	B	2.5%	16.82	17.26	17.70						
	C	2.6%	17.42	17.88	18.33						
MTZJ20V	A	2.5%	18.02	18.49	18.96	5	55	200	0.5	0.2	15
	B	2.5%	18.63	19.11	19.59						
	C	2.5%	19.23	19.73	20.22						
	D	2.5%	19.72	20.22	20.72						

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Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	T Tolerance		V _Z @I _{ZT}			I _{ZT} (mA)	Z _{ZT} @I _{ZT} (Ohms) Max	Z _{ZK} @I _{ZK} (Ohms) Max	I _{ZK} (mA)	I _R @V _R (μ A) Max	V _R (V)
			Min	Nom	Max						
MTZJ22V	A	2.2%	20.15	20.68	21.20	5	30	200	0.5	0.2	17
	B	2.5%	20.64	21.18	21.71						
	C	2.5%	21.08	21.63	22.17						
	D	2.5%	21.52	22.08	22.63						
MTZJ24V	A	2.5%	22.05	22.62	23.18	5	35	200	0.5	0.2	19
	B	2.5%	22.61	23.19	23.77						
	C	2.5%	23.12	23.72	24.31						
	D	2.5%	23.63	24.24	24.85						
MTZJ27V	A	2.5%	24.26	24.89	25.52	5	45	250	0.5	0.2	21
	B	2.5%	24.97	25.62	26.26						
	C	2.5%	25.63	26.29	26.95						
	D	2.5%	26.29	26.97	27.64						
MTZJ30V	A	2.5%	26.99	27.69	28.39	5	55	250	0.5	0.2	23
	B	2.5%	27.70	28.42	29.13						
	C	2.5%	28.36	29.09	29.82						
	D	2.5%	29.02	29.77	30.51						
MTZJ33V	A	2.5%	29.68	30.45	31.22	5	65	250	0.5	0.2	25
	B	2.5%	30.32	31.10	31.88						
	C	2.5%	30.90	31.70	32.50						
	D	2.5%	31.49	32.30	33.11						
MTZJ36V	A	2.5%	32.14	32.97	33.79	5	75	250	0.5	0.2	27
	B	2.5%	32.79	33.64	34.49						
	C	2.5%	33.40	34.27	35.13						
	D	2.5%	34.01	34.89	35.77						
MTZJ39V	A	2.5%	34.68	35.58	36.47	5	85	250	0.5	0.2	30
	B	2.5%	35.36	36.28	37.19						
	C	2.5%	36.00	36.93	37.85						
	D	2.5%	36.63	37.58	38.52						

V_F (forward voltage) = 1.2 V maximum @ I_F = 200mA for all types

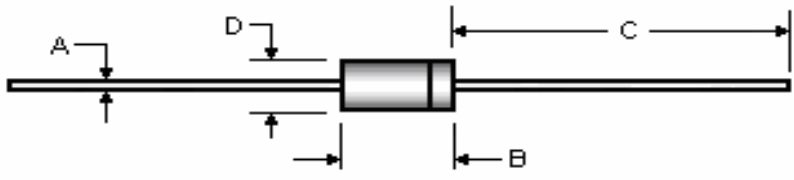
Note:

1. The zener voltage subdivision (V_Z) is measured 40mS after diode is powered up.
2. The operating resistance (Z_{ZT} and Z_{ZK}) is measured by superimposing a minute alternation current in the regulated current (I_Z).
3. When ordering, please specify tolerance A, B, C or D.

PACKAGE OUTLINE & DIMENSIONS

MTZJ2V0~39V

Package Outline

Package	Case Outline				
DO-34					
	DO-34				
	Dimension	Millimeters		Inches	
		Min	Max	Min	Max
	A	0.46	0.55	0.018	.0022
	B	2.16	3.04	0.085	0.120
C	25.40	38.10	1.000	1.500	
D	1.27	1.90	0.050	0.075	

Note:

- 1.0 All dimensions are within JEDEC standard.
- 2.0 DO-34 polarity denoted by cathode band.