

Small Signal Product

500mW, Hermetically Sealed Glass Zener Diodes

FEATURES

- Zener voltage range : 2.0V to 39V
- 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



DO-34



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	500	mW
Lead temperature (1/16" from case for 10 seconds)	L_t	230	$^{\circ}\text{C}$
Operating junction temperature	T_J	+ 175	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-65 to +200	$^{\circ}\text{C}$

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Type Number	T Tolerance		V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{ZT} @ I _{ZT} () Max	Z _{ZK} @ I _{ZK} () Max	I _{ZK} (mA)	I _R (≈A) Max	V _R (V)
			Nom	Min	Max						
MTZJ2V0	A	5.5%	1.990	1.88	2.10	5	100	1000	0.5	120	0.5
	B	4.3%	2.110	2.02	2.20						
MTZJ2V2	A	4.0%	2.210	2.12	2.30	5	100	1000	0.5	100	0.7
	B	4.1%	2.315	2.22	2.41						
MTZJ2V4	A	3.9%	2.425	2.33	2.52	5	100	1000	0.5	120	1.0
	B	4.0%	2.530	2.43	2.63						
MTZJ2V7	A	4.0%	2.645	2.54	2.75	5	110	1000	0.5	100	1.0
	B	3.9%	2.800	2.69	2.91						
MTZJ3V0	A	3.7%	2.960	2.85	3.07	5	120	1000	0.5	50	1.0
	B	3.4%	3.115	3.01	3.22						
MTZJ3V3	A	3.4%	3.270	3.16	3.38	5	120	1000	0.5	20	1.0
	B	3.1%	3.425	3.32	3.53						
MTZJ3V6	A	3.6%	3.575	3.455	3.695	5	100	1000	1.0	10	1.0
	B	3.3%	3.723	3.60	3.845						
MTZJ3V9	A	3.5%	3.875	3.74	4.01	5	100	1000	1.0	5	1.0
	B	3.3%	4.025	3.89	4.16						
MTZJ4V3	A	3.0%	4.165	4.04	4.29	5	100	1000	1.0	5.0	1.0
	B	3.0%	4.300	4.17	4.43						
	C	3.0%	4.435	4.30	4.57						
MTZJ4V7	A	2.6%	4.56	4.44	4.68	5	80	900	1.0	5.0	1.0
	B	2.8%	4.68	4.55	4.80						
	C	2.7%	4.81	4.68	4.93						
MTZJ5V1	A	2.6%	4.94	4.81	5.07	5	80	800	1.0	5.0	1.5
	B	2.6%	5.07	4.94	5.20						
	C	2.7%	5.23	5.09	5.37						
MTZJ5V6	A	2.4%	5.41	5.28	5.55	5	60	500	1.0	5.0	2.5
	B	2.5%	5.59	5.45	5.73						
	C	2.6%	5.76	5.61	5.91						
MTZJ6V2	A	2.7%	5.94	5.78	6.09	5	60	300	1.0	5.0	3.0
	B	2.6%	6.12	5.96	6.27						
	C	2.5%	6.28	6.12	6.44						
MTZJ6V8	A	2.6%	6.46	6.29	6.63	5	20	150	0.5	2.0	3.5
	B	2.6%	6.66	6.49	6.83						
	C	2.6%	6.84	6.66	7.01						
MTZJ7V5	A	2.7%	7.04	6.85	7.22	5	20	120	0.5	0.5	4.0
	B	2.6%	7.26	7.07	7.45						
	C	2.5%	7.48	7.29	7.67						
MTZJ8V2	A	2.6%	7.73	7.53	7.92	5	20	120	0.5	0.5	5.0
	B	2.6%	7.99	7.78	8.19						
	C	2.5%	8.24	8.03	8.45						
MTZJ9V1	A	2.6%	8.51	8.29	8.73	5	25	120	0.5	0.5	6.0
	B	2.5%	8.79	8.57	9.01						
	C	2.6%	9.07	8.83	9.30						

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Type Number	T Tolerance		V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{ZT} @ I _{ZT} () Max	Z _{ZK} @ I _{ZK} () Max	I _{ZK} (mA)	I _R (uA) Max	V _R (V)
			Nom	Min	Max						
MTZJ10	A	2.6%	9.36	9.12	9.59	5	30	120	0.5	0.2	7.0
	B	2.6%	9.66	9.41	9.90						
	C	2.5%	9.95	9.70	10.20						
	D	2.5%	10.19	9.97	10.44						
MTZJ11	A	2.6%	10.45	10.18	10.71	5	30	120	0.5	0.2	8.0
	B	2.6%	10.78	10.500	11.05						
	C	2.5%	11.10	10.82	11.38						
MTZJ12	A	2.5%	11.42	11.13	11.71	5	30	110	0.5	0.2	9.0
	B	2.6%	11.74	11.44	12.03						
	C	2.6%	12.05	11.74	12.35						
MTZJ13	A	2.6%	12.43	12.11	12.75	5	35	110	0.5	0.2	10
	B	2.6%	12.88	12.55	13.21						
	C	2.6%	13.33	12.99	13.66						
MTZJ15	A	2.5%	13.79	13.44	14.13	5	40	110	0.5	0.2	11
	B	2.6%	14.26	13.89	14.62						
	C	2.5%	14.72	14.35	15.09						
MTZJ16	A	2.6%	15.19	14.80	15.57	5	40	150	0.5	0.2	12
	B	2.6%	15.65	15.25	16.04						
	C	2.5%	16.10	15.69	16.51						
MTZJ18	A	2.5%	16.64	16.22	17.06	5	45	150	0.5	0.2	13
	B	2.5%	17.26	16.82	17.70						
	C	2.6%	17.88	17.42	18.33						
MTZJ20	A	2.5%	18.49	18.02	18.96	5	55	200	0.5	0.5	15
	B	2.5%	19.11	18.63	19.59						
	C	2.5%	19.73	19.23	20.22						
	D	2.5%	20.22	19.72	20.72						
MTZJ22	A	2.2%	20.68	20.15	21.2	5	30	200	0.5	0.2	17
	B	2.5%	21.18	20.64	21.71						
	C	2.5%	21.63	21.08	22.17						
	D	2.5%	22.08	21.52	22.63						
MTZJ24	A	2.5%	22.62	22.02	23.18	5	35	200	0.5	0.2	19
	B	2.5%	23.19	22.61	23.77						
	C	2.5%	23.72	23.12	24.31						
	D	2.5%	24.24	23.63	24.85						
MTZJ27	A	2.5%	24.89	24.26	25.52	5	45	250	0.5	0.2	21
	B	2.5%	25.62	24.97	26.26						
	C	2.5%	26.29	25.63	26.95						
	D	2.5%	26.97	26.29	27.64						
MTZJ30	A	2.5%	27.69	26.99	28.39	5	55	250	0.5	0.2	23
	B	2.5%	28.42	27.70	29.13						
	C	2.5%	29.09	28.36	29.82						
	D	2.5%	29.77	29.02	30.51						

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Type Number	T Tolerance		V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{ZT} @ I _{ZT} () Max	Z _{ZK} @ I _{ZK} () Max	I _{ZK} (mA)	I _R (uA) Max	V _R (V)
			Nom	Min	Max						
MTZJ33	A	2.5%	30.45	29.68	31.22	5	65	250	0.5	0.2	25
	B	2.5%	31.10	30.32	31.88						
	C	2.5%	31.70	30.90	32.50						
	D	2.5%	32.30	31.49	33.11						
MTZJ36	A	2.5%	32.97	32.14	33.79	5	75	250	0.5	0.2	27
	B	2.5%	33.64	32.79	34.49						
	C	2.5%	34.27	33.40	35.13						
	D	2.5%	34.89	34.01	35.77						
MTZJ39	A	2.5%	35.58	34.68	36.47	5	85	250	0.5	0.2	30
	B	2.5%	36.28	35.36	37.19						
	C	2.5%	36.93	36.00	37.85						
	D	2.5%	37.58	36.63	38.52						

- Notes :
1. The Zener Voltage subdivision (V_Z) is measured 40ms after diode is powered up.
 2. The operating resistance (Z_{ZT} or 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

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Fig. 1 $V_Z - I_Z$ Characteristics

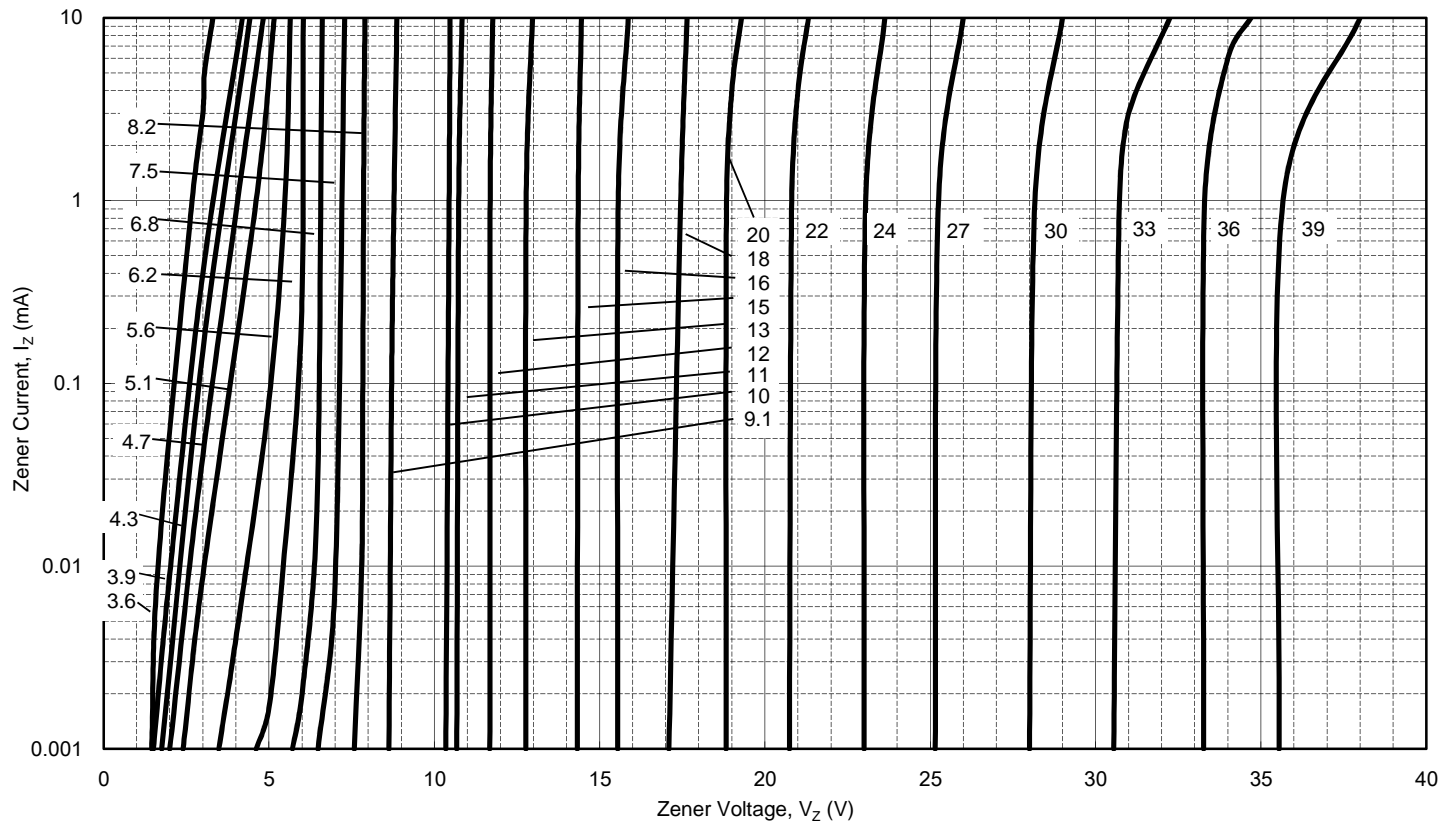


Fig. 2 $P_D - T_A$ Characteristics

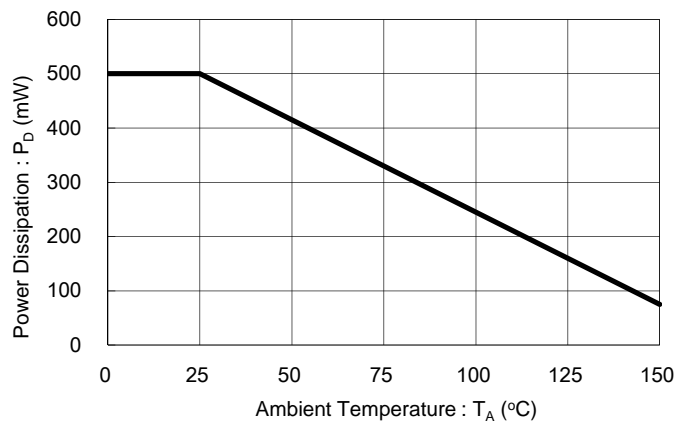


Fig. 3 PRSM - Time Characteristics

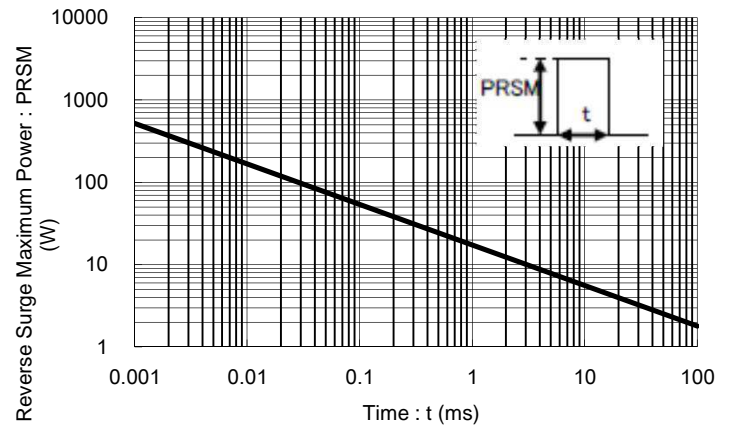


Fig. 4 $r_z - V_Z$ Characteristics

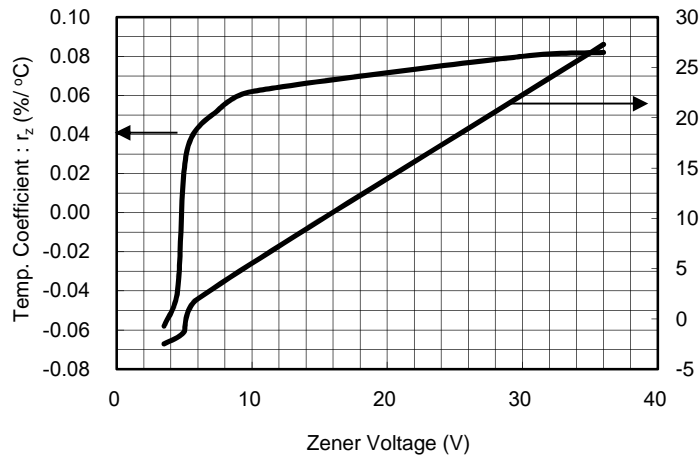
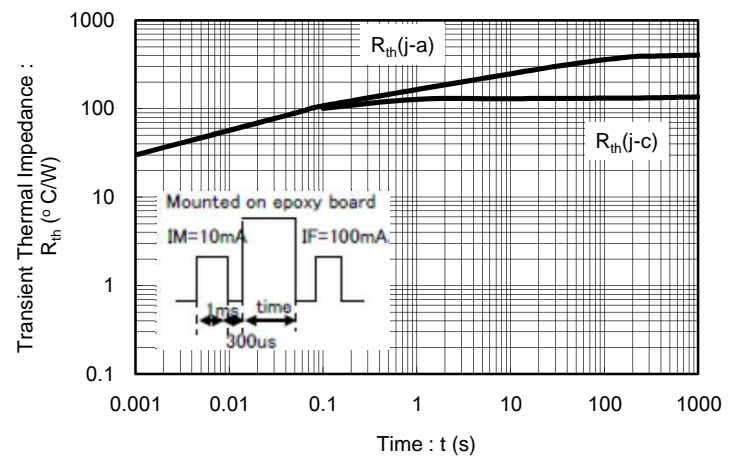


Fig. 5 R_{th-t} Characteristics



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Fig. 6 $V_Z - I_Z$ Characteristics

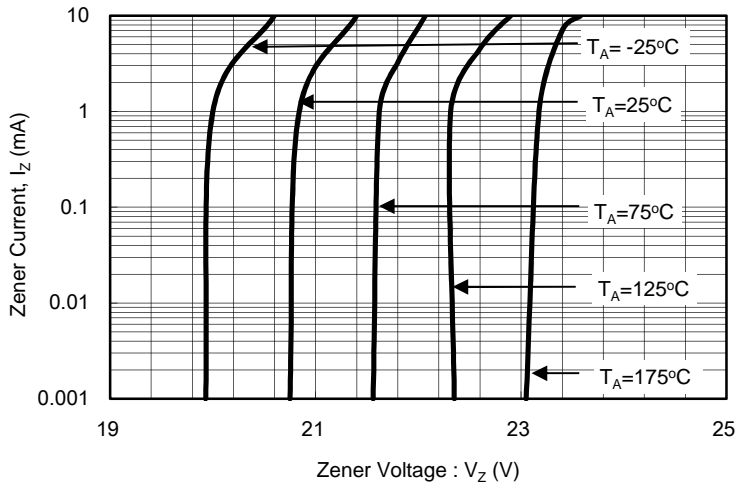


Fig. 7 $V_R - I_R$ Characteristics

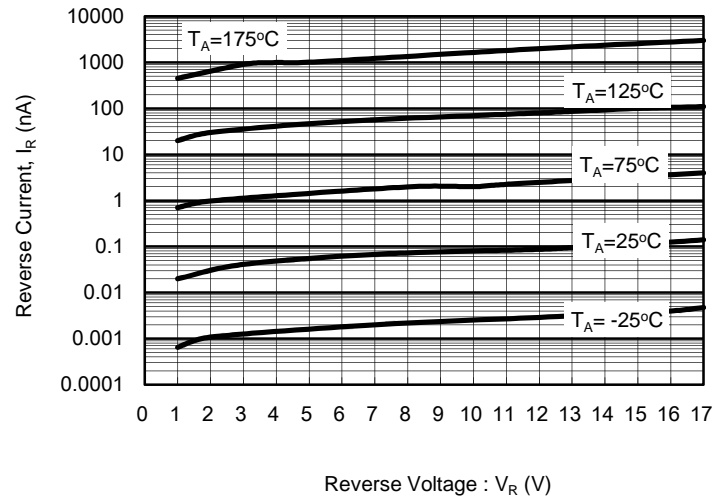


Fig. 8 $V_R - C_t$ Characteristics

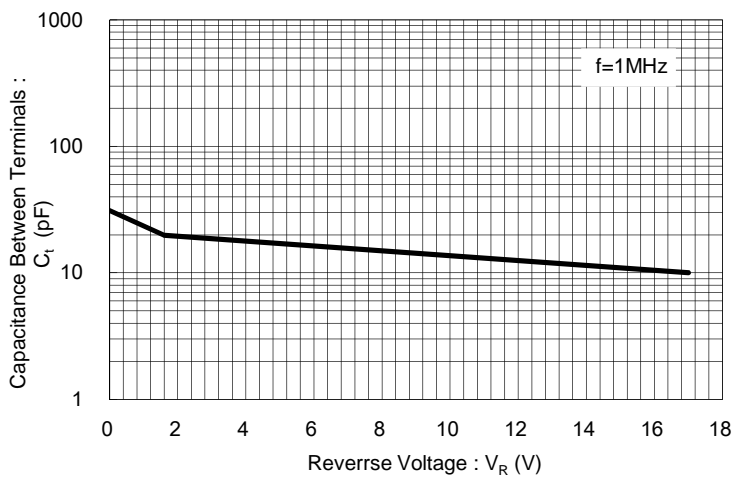
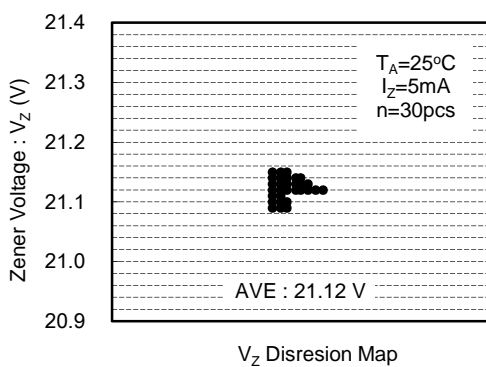
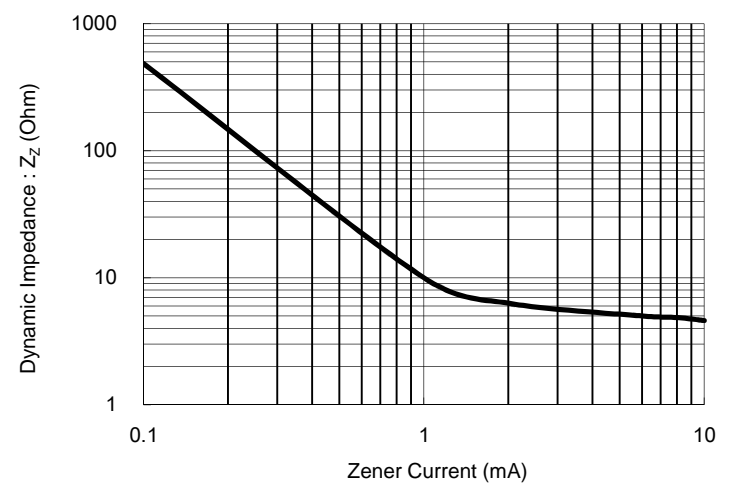
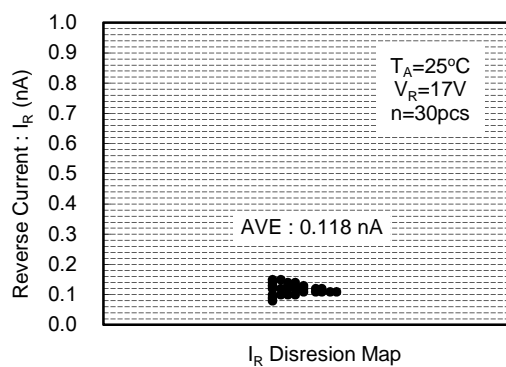


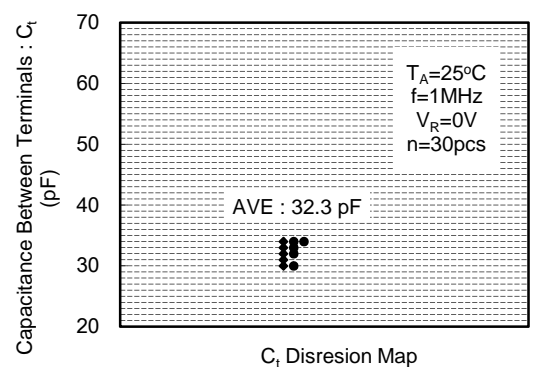
Fig. 9 $Z_Z - I_Z$ Characteristics



V_Z Disersion Map



I_R Disersion Map



C_t Disersion Map

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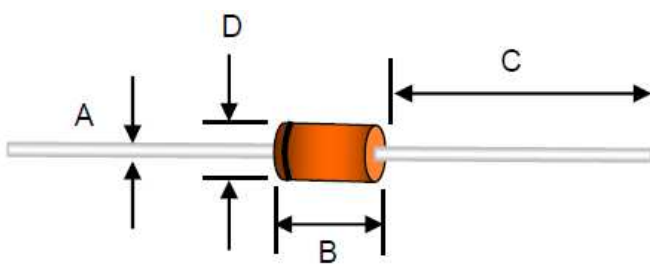
ORDERING INFORMATION					
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MANUFACTURE CODE
MTZJxxx (Note 1)	R0	Suffix "G"	DO-34	10K / 14" Reel	(Note 2)
	A0			5K / Box(Ammo)	
	A2			5K / Box(Ammo)	

Note 1 : "xxx" is Device Code from "2V0" to "39".

Note 2: Manufacture special control, if empty means no special control requirement.

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	MANUFACTURE CODE
MTZJ10 R0	MTZJ10	R0		
MTZJ10 R0G	MTZJ10	R0	G	
MTZJ10-L0 R0	MTZJ10	R0		L0
MTZJ10-L0 R0G	MTZJ10	R0	G	L0

PACKAGE OUTLINE DIMENSIONS



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	0.30	0.55	0.012	0.022
B	2.16	3.04	0.085	0.120
C	25.40	38.10	1.000	1.500
D	1.27	2.00	0.050	0.079