Z100B THRU Z330B

List

Z100B THRU Z330B

1000mW Axial Lead Zener Diodes - 100V-330V

Features

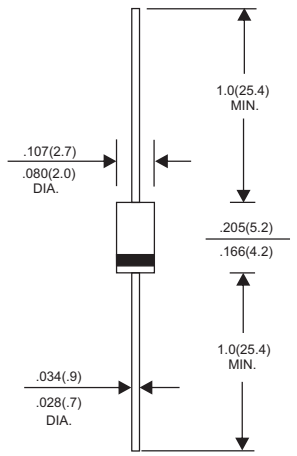
- Glass passivated chip junction.
- Typical IR less than 0.5uA above 110V.
- Standard zener voltage tolerance ±5%.
- Low inductance.
- Low profile package.
- Built-in strain relief.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free part, ex.Z100B-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-41
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 0.33 gram

Package outline

DO-41



Dimensions in inches and (millimeters)

Maximum ratings (at T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 200 mA	V_F			1.20	V
Power Dissipation		P_D			1000	mW
Operating temperature		T_J	-55		+150	°C
Storage temperature		T_{STG}	-65		+175	°C

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Electrical characteristics (at T_A=25°C unless otherwise noted)

Part No.	Marking code	Zener voltage			Test current	Zener impedance			Leakage current	
		Min. V_Z @ I_{ZT}	Nom. V_Z @ I_{ZT}	Max. V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R
		Volts	Volts	Volts	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts
Z100B	Z10-100B	95	100	105	5.0	750	5000	0.25	0.5	75
Z105B	Z10-105B	99.75	105	110.25	5.0	750	5000	0.25	0.5	77
Z110B	Z10-110B	104.5	110	115.5	5.0	750	5000	0.25	0.5	80
Z115B	Z10-115B	109.25	115	120.75	5.0	750	5000	0.25	0.5	85
Z120B	Z10-120B	114	120	126	5.0	850	5000	0.25	0.5	90
Z130B	Z10-130B	123.5	130	136.5	5.0	1000	5000	0.25	0.5	95
Z140B	Z10-140B	133	140	147	5.0	1200	5000	0.25	0.5	105
Z150B	Z10-150B	142.5	150	157.5	5.0	1300	5000	0.25	0.5	110
Z160B	Z10-160B	152	160	168	5.0	1500	5000	0.25	0.5	120
Z170B	Z10-170B	161.5	170	178.5	5.0	2200	5000	0.25	0.5	130
Z180B	Z10-180B	171	180	189	5.0	2200	5000	0.25	0.5	140
Z190B	Z10-190B	180.5	190	199.5	5.0	2500	5000	0.25	0.5	150
Z200B	Z10-200B	190	200	210	5.0	2500	8000	0.25	0.5	165
Z210B	Z10-210B	199.5	210	220.5	5.0	5000	9000	0.25	0.5	165
Z220B	Z10-220B	209	220	231	5.0	5000	9000	0.25	0.5	170
Z230B	Z10-230B	218.5	230	241.5	5.0	5000	9000	0.25	0.5	175
Z240B	Z10-240B	228	240	252	5.0	5000	9000	0.25	0.5	180
Z250B	Z10-250B	237.5	250	262.5	5.0	5000	9000	0.25	0.5	190
Z260B	Z10-260B	247	260	273	5.0	5000	9000	0.25	0.5	195
Z270B	Z10-270B	256.5	270	283.5	5.0	5000	9000	0.25	0.5	200
Z280B	Z10-280B	266	280	294	5.0	5000	9000	0.25	0.5	210
Z290B	Z10-290B	275.5	290	304.5	5.0	5000	9000	0.25	0.5	215
Z300B	Z10-300B	285	300	315	5.0	5000	9000	0.25	0.5	220
Z310B	Z10-310B	294.5	310	325.5	5.0	5000	9000	0.25	0.5	225
Z320B	Z10-320B	304	320	336	5.0	5000	9000	0.25	0.5	233
Z330B	Z10-330B	313.5	330	346.5	5.0	5000	9000	0.25	0.5	240

Note: The part numbers listed above are with 5% tolerance of zener voltages
5% tolerance of Zener voltage for suffix "B" ex: Z110B

Rating and characteristic curves (Z100B THRU Z330B)

FIG.1-TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE

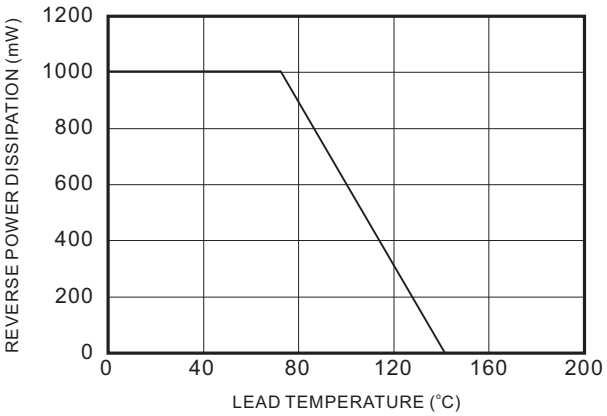


FIG.2-TYPICAL FORWARD CHARACTERISTICS

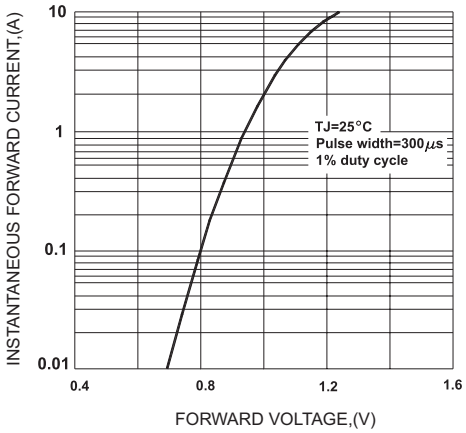


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

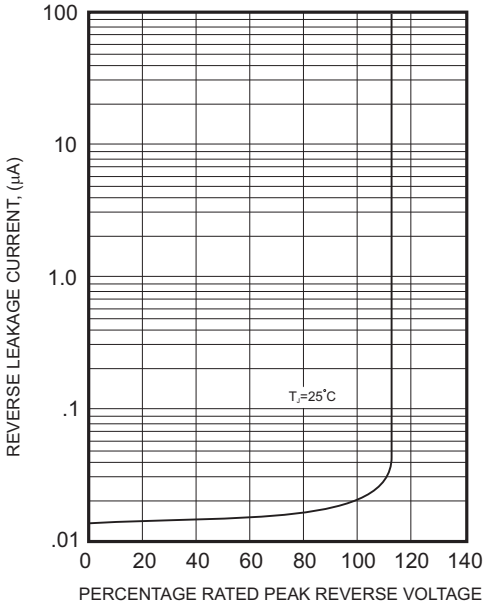
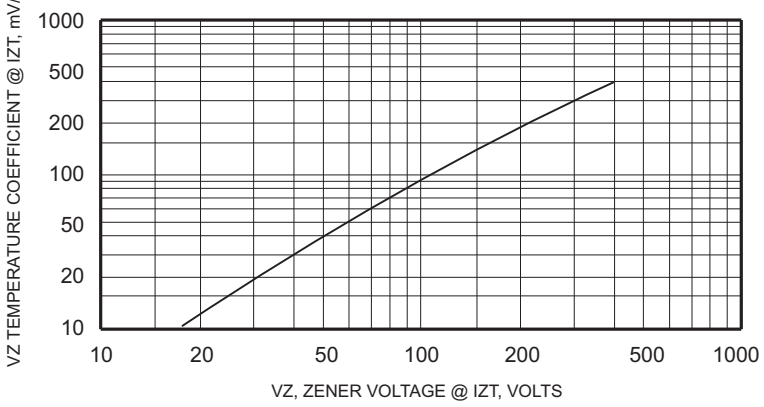


FIG.4 - TYPICAL TEMPERATURE COEFFICIENTS



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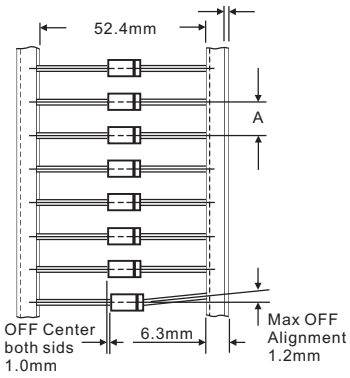
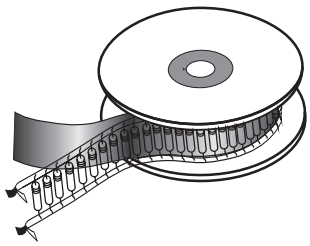
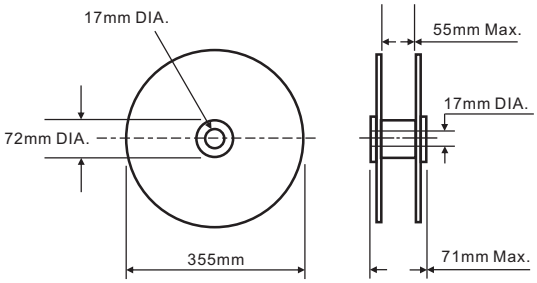
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Taping & bulk specifications for AXIAL devices







REEL PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / REEL)	COMPONENT SPACING "A" in FIG. A	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	5,000	5 mm	360 * 340 * 370	20,000	10.8

AMMO PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	5,000	260 * 83 * 160	440 * 270 * 340	50,000	20.0

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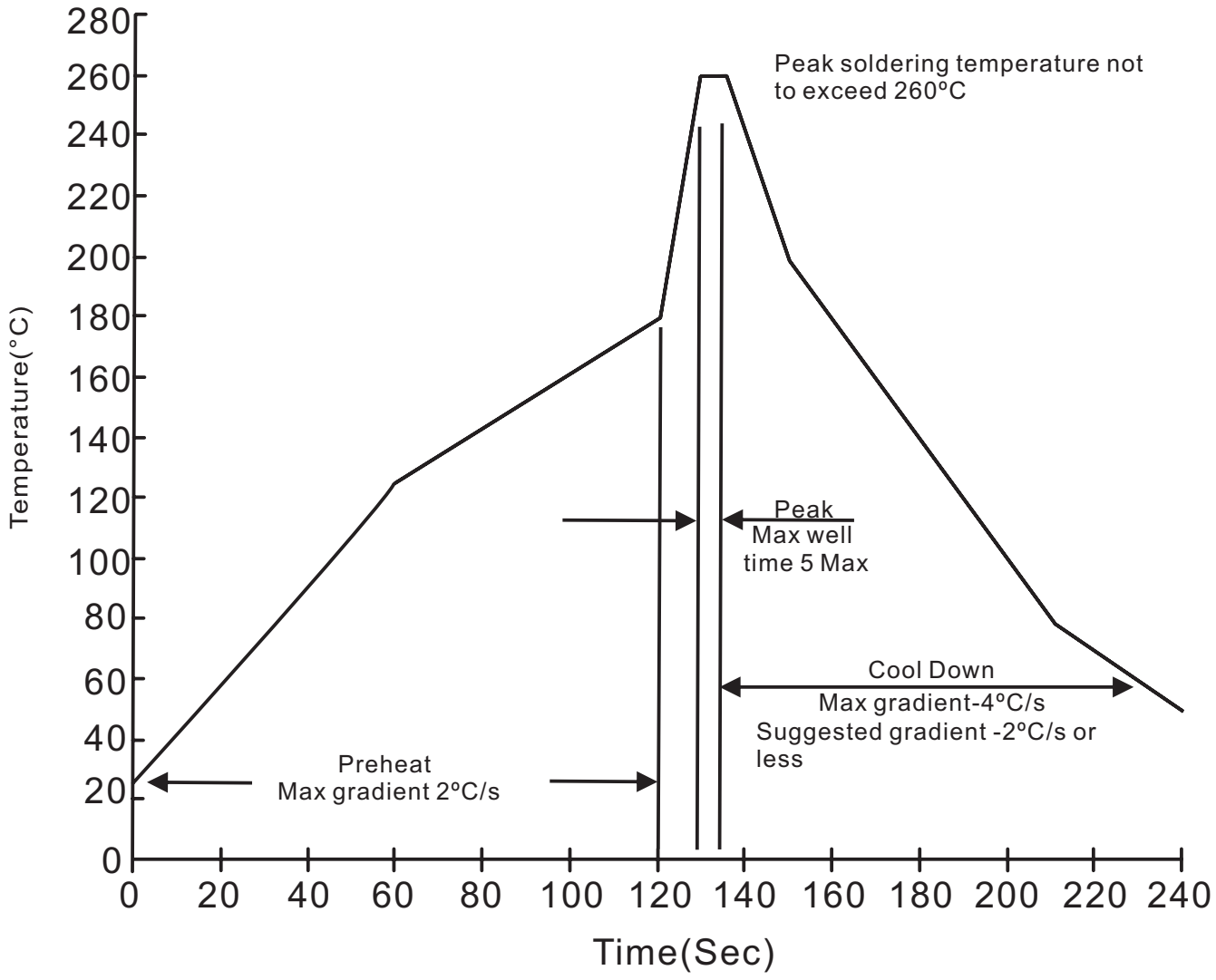
BULK PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	1,000	194 * 84 * 20	465 * 220 * 260	50,000	20.6

Suggested thermal profiles for soldering processes

1.Lead free temperature profile wave-soldering



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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. Pull Test	1kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036
4. Bend Lead	1kg weight applied to each lead bending arc 90°±5° for 3 times.	MIL-STD-750D METHOD-2036
5. High Temperature Reverse Bias	V_R=80% rate at T_J=150°C for 168 hrs.	MIL-STD-750D METHOD-1038
6. Pressure Cooker	15P_{SIG} at T_A=121°C for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Thermal Shock	0°C for 5 min. rise to 100°C for 5 min. total 10 cycles.	MIL-STD-750D METHOD-1056
9. Humidity	at T_A=85°C, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031