

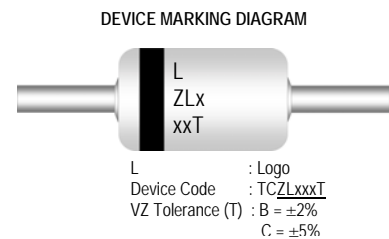
500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



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

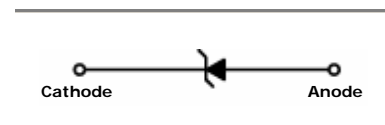
Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +200	$^\circ\text{C}$
Operating Junction Temperature	+200	$^\circ\text{C}$
Lead Temperature (1/16" from case for 10 seconds)	+230	$^\circ\text{C}$

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



Specification Features:

- Zener Voltage Range 2.4 to 75 Volts
- DO-35 Package (JEDEC)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All external surfaces are corrosion resistant and leads are readily solderable
- Cathode indicated by polarity band



ELECTRICAL SYMBOL

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

Device Type	$V_Z @ I_{ZT}$ (Volts)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	I_{ZK} (mA)	$Z_{ZK} @ I_{ZK}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
	Min	Nom	Max						
TCZL2V4B	2.35	2.4	2.45	5	94	1	564	45	1
TCZL2V7B	2.65	2.7	2.75	5	94	1	564	18	1
TCZL3V0B	2.94	3.0	3.06	5	89	1	564	9	1
TCZL3V3B	3.23	3.3	3.37	5	89	1	564	4.5	1
TCZL3V6B	3.53	3.6	3.67	5	84	1	564	4.5	1
TCZL3V9B	3.82	3.9	3.98	5	84	1	564	2.7	1
TCZL4V3B	4.21	4.3	4.39	5	84	1	564	2.7	1
TCZL4V7B	4.61	4.7	4.79	5	75	1	470	2.7	2
TCZL5V1B	5.00	5.1	5.20	5	56	1	451	1.8	2
TCZL5V6B	5.49	5.6	5.71	5	37	1	376	0.9	2
TCZL6V2B	6.08	6.2	6.32	5	9	1	141	2.7	4
TCZL6V8B	6.66	6.8	6.94	5	14	1	75	1.8	4
TCZL7V5B	7.33	7.5	7.63	5	14	1	75	0.9	5
TCZL8V2B	8.04	8.2	8.36	5	14	1	75	0.63	5
TCZL9V1B	8.92	9.1	9.28	5	14	1	94	0.45	6
TCZL10B	9.80	10	10.20	5	18	1	141	0.18	7
TCZL11B	10.78	11	11.22	5	18	1	141	0.09	8
TCZL12B	11.76	12	12.24	5	23	1	141	0.09	8
TCZL13B	12.74	13	13.26	5	28	1	160	0.09	8
TCZL15B	14.70	15	15.30	5	28	1	188	0.045	10.5
TCZL16B	15.68	16	16.32	5	37	1	188	0.045	11.2
TCZL18B	17.64	18	18.36	5	42	1	212	0.045	12.6
TCZL20B	19.60	20	20.40	5	51	1	212	0.045	14.0
TCZL22B	21.56	22	22.44	5	51	1	235	0.045	15.4
TCZL24B	23.52	24	24.48	5	65	1	235	0.045	16.8

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

Device Type	$V_Z @ I_{ZT}$ (Volts)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	I_{ZK} (mA)	$Z_{ZK} @ I_{ZK}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
	Min	Nom	Max						
TCZL27B	26.46	27	27.54	5	75	0.5	282	0.045	18.9
TCZL30B	29.40	30	30.60	5	75	0.5	282	0.045	21.0
TCZL33B	32.34	33	33.66	5	75	0.5	306	0.045	23.0
TCZL36B	35.28	36	36.72	5	84	0.5	329	0.045	25.2
TCZL39B	38.22	39	39.78	5	122	0.5	329	0.045	27.3
TCZL43B	42.14	43	43.86	5	141	0.5	353	0.045	30.1
TCZL47B	46.06	47	47.94	5	160	0.5	353	0.045	33.0
TCZL51B	49.98	51	52.02	5	169	0.5	376	0.045	35.7
TCZL56B	54.88	56	57.12	5	188	0.5	400	0.045	39.2
TCZL62B	60.76	62	63.24	5	202	0.5	423	0.045	43.4
TCZL68B	66.64	68	69.36	5	226	0.5	447	0.045	47.6
TCZL75B	73.50	75	76.50	5	240	0.5	470	0.045	52.5

V_F Forward Voltage = 1 V Maximum @ $I_F = 100$ mA for all types

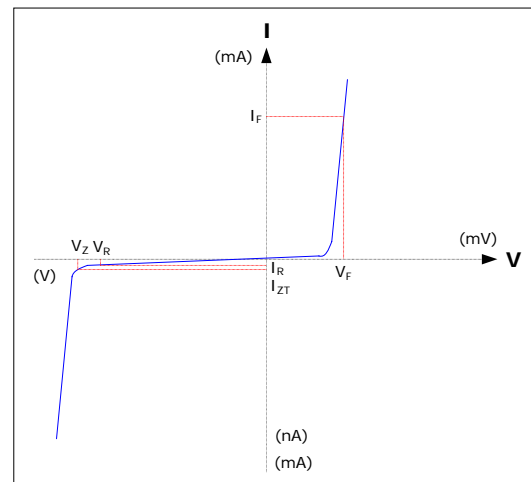
Notes:

1. The device numbers listed have a standard tolerance on the nominal zener voltage of $\pm 2\%$. Device tolerance of $\pm 5\%$ is indicated by a "C" instead of a "B".
2. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK} .

Electrical Symbol Definition

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Breakdown Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F

Typical Characteristics

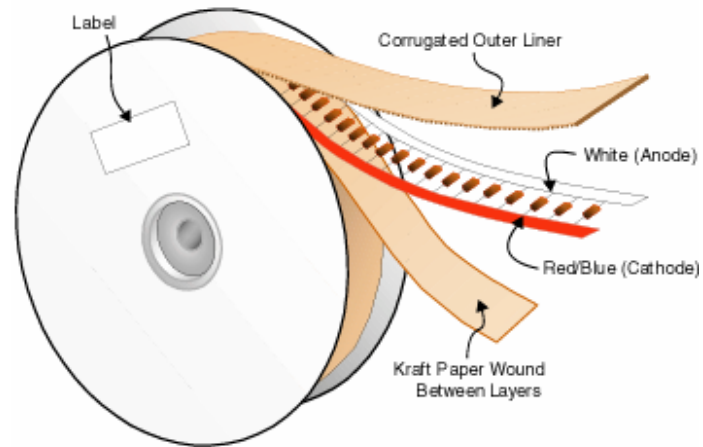
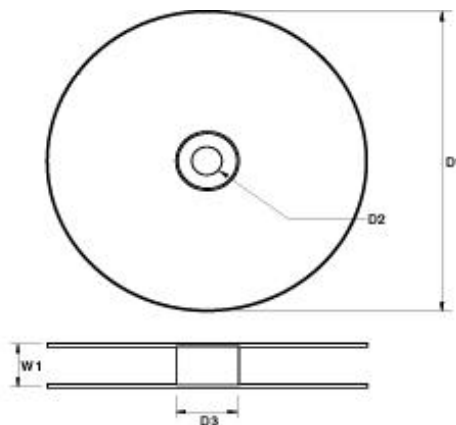


Ordering Information

Device	Package	Quantity
TCZLxxxB	Bulk	10,000
TCZLxxxB.TB	Tape and Ammo (52mm)	5,000
TCZLxxxB.TR	Tape and Reel	10,000
TCZLxxxB.T26B	Tape and Ammo (26mm)	5,000
TCZLxxxB	Others (...contact Tak Cheong sales representatives)	

Axial-Lead Tape Packaging Standards

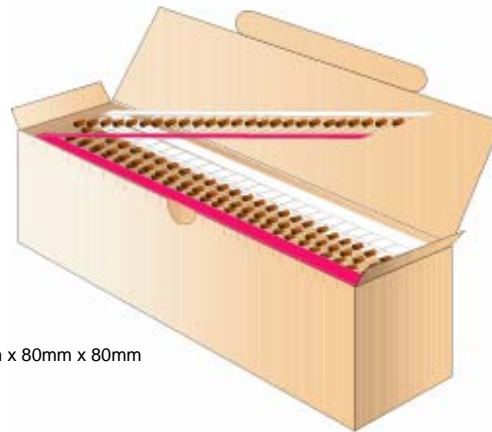
This axial-lead component's packaging requirements use in automatic testing and assembly equipment. And this standard practices for lead-tape packaging of axial-lead components meets the requirements of EIA Standard RS-296-D "Lead-taping of Components on Axial Lead Configuration for Automatic Insertion".

Tape & Reel Packaging Information
Tape & Reel Outline

Reel Dimensions


DIM	Millimeters
D1	356
D2	30
D3	84
W1	77.5

Quantity Per Reel

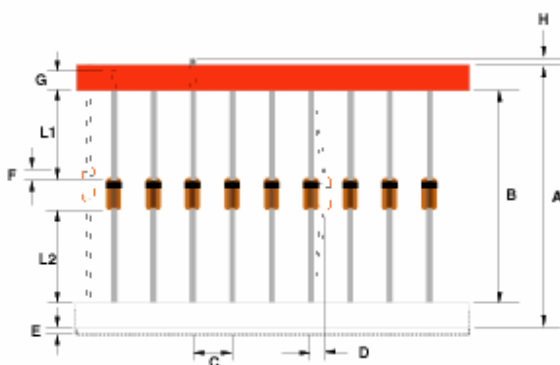
PKG Type	Quantity Per Reel
DO-35	10,000

Tape & Ammo Packaging Information
Tape & Ammo Outline


250mm x 80mm x 80mm

Quantity Per Ammo Box

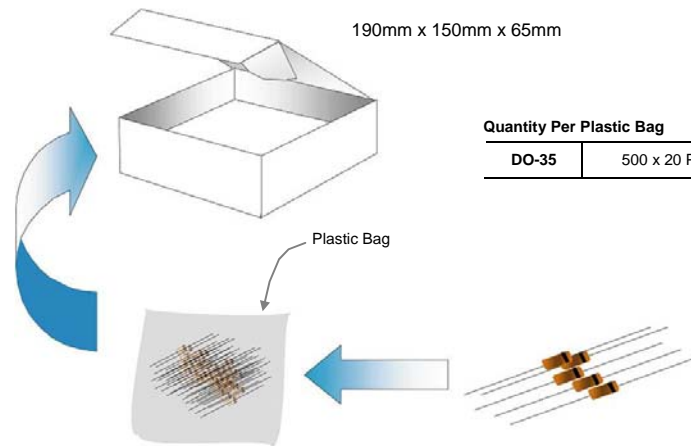
PKG Type	Quantity Per Box
DO-35	5,000

Taping Dimensions


Description	Millimeters	
	Standard Width	52
Tape Spacing (B)	52 ± 0.69	26 +0.5 / -0
Component Pitch (C)	5.08 ± 0.4	5.08 ± 0.4
Untaped Lead (L1 – L2)	± 0.69	± 0.69
Glass Offset (F)	± 0.69	± 0.69
Bent (D)	1.2 Max	1.2 Max
Tape Width (G)	6.138 ± 0.576	6.138 ± 0.576
Tape Mismatch (E)	0.55 Max	0.55 Max
Taped Lead (G)	3.2 Min	3.2 Min
Lead Beyond Tape (H)	0	0

Bulk Packaging Information

Bulk Outline

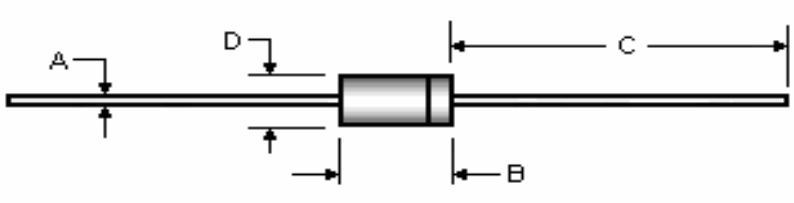


Quantity Per Plastic Bag	
DO-35	500 x 20 Plastic Bag

Quantity Per Box

PKG Type	Quantity Per Box
DO-35	10,000

Package Outline

Package	Case Outline				
DO-35					
	DO-35				
	DIM	Millimeters		Inches	
		Min	Max	Min	Max
	A	0.46	0.55	0.018	0.022
	B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500	
D	1.53	2.28	0.060	0.090	

Notes:

1. All dimensions are within JEDEC standard.
2. DO35 polarity denoted by cathode band.