TAK CHEONG®

PRELIMINARY DATASHEET

400 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators

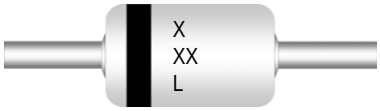
AXIAL LEAD
DO35

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Parameter	Value	Units
Power Dissipation	400	mW
Storage Temperature Range	-65 to +175	°C
Operating Junction Temperature	+175	°C

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

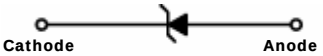
DEVICE MARKING DIAGRAM



Voltage Code : TCXXXL

Specification Features:

- Zener Voltage Range5.2 to 38 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
- RoHS Compliant and Halogen Free
- Solder Hot Dip Tin (Sn) Terminal Finish
- Cathode Indicated By Polarity Band



ELECTRICAL SYMBOL

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Type	Grade		Zener Voltage VZ(Volts) Min	Zener Voltage VZ(Volts) Max	Test Condition Iz (mA)	Reverse Current IR (µA) Max	Test Condition VR (V)	Dynamic Resistance Z_{ZT} @I_{ZT} (Ω) Max	Test Condition Iz (mA)
TC6	A1	L	5.2	5.5	0.5	1	2	150	0.5
	A2		5.3	5.6					
	A3		5.4	5.7					
	B1		5.5	5.8	0.5	1	2	80	0.5
	B2		5.6	5.9					
	B3		5.7	6					
	C1		5.8	6.1	0.5	1	2	60	0.5
	C2		6	6.3					
	C3		6.1	6.4					
TC7	A1	L	6.3	6.6	0.5	1	3.5	60	0.5
	A2		6.4	6.7					
	A3		6.6	6.9					
	B1		6.7	7					
	B2		6.9	7.2					
	B3		7	7.3					
	C1		7.2	7.6					
	C2		7.3	7.7					
	C3		7.5	7.9					

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Type	Grade		Zener Voltage			Reverse Current		Dynamic Resistance	
			VZ(Volts)		Test Condition	IR (μA)	Test Condition	Z_{ZT} @I_{ZT} (Ω)	Test Condition
			Min	Max	Iz (mA)	Max	VR (V)	Max	Iz (mA)
TC9	A1	L	7.7	8.1	0.5	1	6	60	0.5
	A2		7.9	8.3					
	A3		8.1	8.5					
	B1		8.3	8.7					
	B2		8.5	8.9					
	B3		8.7	9.1					
	C1		8.9	9.3					
	C2		9.1	9.5					
	C3		9.3	9.7					
TC11	A1	L	9.5	9.9	0.5	1	8	80	0.5
	A2		9.7	10.1					
	A3		9.9	10.3					
	B1		10.2	10.6					
	B2		10.4	10.8					
	B3		10.7	11.1					
	C1		10.9	11.3					
	C2		11.1	11.6					
	C3		11.4	11.9					
TC12	A1	L	11.6	12.1	0.5	1	10.5	80	0.5
	A2		11.9	12.4					
	A3		12.2	12.7					
	B1		12.4	12.9					
	B2		12.6	13.1					
	B3		12.9	13.4					
	C1		13.2	13.7					
	C2		13.5	14					
	C3		13.8	14.3					
TC15	-1	L	14.1	14.7	0.5	1	13	80	0.5
	-2		14.5	15.1					
	-3		14.9	15.5					
TC16	-1	L	15.3	15.9	0.5	1	14	80	0.5
	-2		15.7	16.5					
	-3		16.3	17.1					
TC18	-1	L	16.9	17.7	0.5	1	15	80	0.5
	-2		17.5	18.3					
	-3		18.1	19					
TC20	-1	L	18.8	19.7	0.5	1	18	100	0.5
	-2		19.5	20.4					
	-3		20.2	21.1					
TC22	-1	L	20.9	21.9	0.5	1	20	100	0.5
	-2		21.6	22.6					
	-3		22.3	23.3					
TC24	-1	L	22.9	24	0.5	1	22	120	0.5
	-2		23.6	24.7					
	-3		24.3	25.5					

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Type	Grade		Zener Voltage			Reverse Current		Dynamic Resistance	
			VZ(Volts)		Test Condition	IR (μA)	Test Condition	Z_{ZT} @I_{ZT} (Ω)	Test Condition
			Min	Max	Iz (mA)	Max	VR (V)	Max	Iz (mA)
TC27	-1	L	25.2	26.6	0.5	1	24	150	0.5
	-2		26.2	27.6					
	-3		27.2	28.6					
TC30	-1	L	28.2	29.6	0.5	1	27	200	0.5
	-2		29.2	30.6					
	-3		30.2	31.6					
TC33	-1	L	31.2	32.6	0.5	1	30	250	0.5
	-2		32.2	33.6					
	-3		33.2	34.6					
TC36	-1	L	34.2	35.7	0.5	1	33	300	0.5
	-2		35.3	36.8					
	-3		36.4	38					

V_F Forward Voltage = 1.2 V Maximum @ I_F = 200 mA for all types

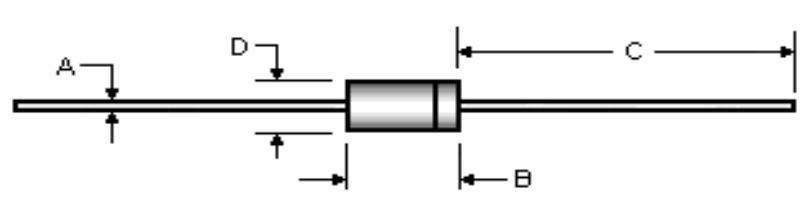
Notes:

1. The zener voltage (V_Z) is tested under pulse condition.
2. The dynamic resistance Z_{ZT} is measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for $I_{Z(AC)}$ = 0.1 $I_{Z(DC)}$ with AC frequency = 60Hz.
3. Type No. is as follows; TC6A1L, TC6A2L, TC36-3L.

Package Outline

Package	Case Outline

DO-35



DIM	DO-35			
	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.