



## 500mW DO-35 Hermetically sealed Glass Zener Voltage Regulators

# CBZX55CXXLC

### Descriptions

This is a complete series of 500mW zener diodes with limits and excellent operating characteristics that reflect the superior capabilities of silicon-oxide passivated junctions. All this in an axial-lead hermetically sealed glass package that offers protection in all common environmental conditions.

### Features

- Zener voltage range : 2.4 V to 47 V
- ESD rating of class 3 (>16kV) per Human Body Model
- Double slug type construction
- Metallurgical bonded construction

### Mechanical Characteristics:

- Case: double slug type, hermetically sealed glass
- Finish: all external surfaces are corrosion resistant and leads are readily solderable
- Maximum lead temperature for soldering purposes: 230°C, 1/16" from the case for 10 seconds
- Polarity: cathode indicated by the polarity band
- Mounting position: any

### Maximum Ratings

Characteristics	Symbol	Max	Unit
Total Device Dissipation	P <sub>tot</sub>	500*	mW
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	300*	°C/W
Storage Temperature	T <sub>stg</sub>	-65 to +175	°C
Junction Temperature	T <sub>j</sub>	175	°C

\*Valid provided that leads are kept at ambient temperature at a distance of 8mm from case.



**Electrical Characteristics** (TL=30°C, unless otherwise noted, VF=1.0V Max @IF=100mA for all types.)

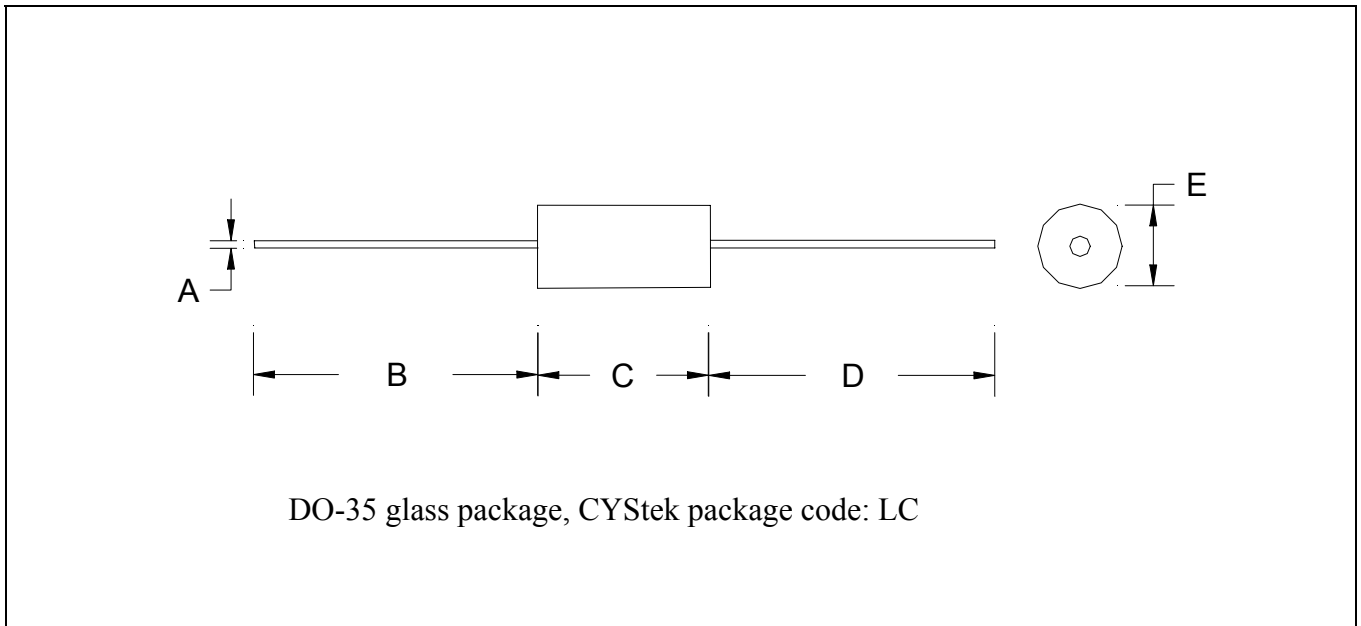
Device	Nominal Zener Voltage Vz at IzT (V)(Note1)	Test Current IzT(mA)	Maximum Zener Impedance(Note 2)		Typical Temperature Coefficient (%/°C)	Maximum Reverse Leakage Current		Maximum Regulation Current IzM(mA) (Note 3)
			ZzT at IzT (Ω)	ZzK at IzK=1mA (Ω)		Ir (μA)	Test Voltage (V)	
CBZX55C2V4	2.28-2.56	5	85	600	-0.070	50	1.0	150
CBZX55C2V7	2.5-2.9	5	85	600	-0.070	10	1.0	135
CBZX55C3V0	2.8-3.2	5	85	600	-0.070	4	1.0	125
CBZX55C3V3	3.1-3.5	5	85	600	-0.065	2	1.0	115
CBZX55C3V6	3.4-3.8	5	85	600	-0.060	2	1.0	105
CBZX55C3V9	3.7-4.1	5	85	600	-0.050	2	1.0	95
CBZX55C4V3	4.0-4.6	5	75	600	-0.025	1	1.0	90
CBZX55C4V7	4.4-5.0	5	60	600	-0.010	0.5	1.0	85
CBZX55C5V1	4.8-5.4	5	35	550	+0.015	0.1	1.0	80
CBZX55C5V6	5.2-6.0	5	25	450	+0.025	0.1	1.0	70
CBZX55C6V2	5.8-6.6	5	10	200	+0.035	0.1	2.0	64
CBZX55C6V8	6.4-7.2	5	8	150	+0.045	0.1	3.0	58
CBZX55C7V5	7.0-7.9	5	7	50	+0.050	0.1	5.0	53
CBZX55C8V2	7.7-8.7	5	7	50	+0.050	0.1	6.0	47
CBZX55C9V1	8.5-9.6	5	10	50	+0.060	0.1	7.0	43
CBZX55C10	9.4-10.6	5	15	70	+0.070	0.1	7.5	40
CBZX55C11	10.4-11.6	5	20	70	+0.070	0.1	8.5	36
CBZX55C12	11.4-12.7	5	20	90	+0.070	0.1	9.0	32
CBZX55C13	12.4-14.1	5	26	110	+0.070	0.1	10	29
CBZX55C15	13.8-15.6	5	30	110	+0.070	0.1	11	27
CBZX55C16	15.3-17.1	5	40	170	+0.070	0.1	12	24
CBZX55C18	16.8-19.1	5	50	170	+0.070	0.1	14	21
CBZX55C20	18.8-21.2	5	55	220	+0.070	0.1	15	20
CBZX55C22	20.8-23.3	5	55	220	+0.070	0.1	17	18
CBZX55C24	22.8-25.6	5	80	220	+0.080	0.1	18	16
CBZX55C27	25.1-28.9	5	80	220	+0.080	0.1	20	14
CBZX55C30	28-32	5	80	220	+0.080	0.1	22	13
CBZX55C33	31-35	5	80	220	+0.080	0.1	24	12
CBZX55C36	34-38	5	80	220	+0.080	0.1	27	11
CBZX55C39	37-41	2.5	90	500	+0.080	0.1	30	10
CBZX55C43	40-46	2.5	90	600	+0.080	0.1	33	9.2
CBZX55C47	44-50	2.5	110	700	+0.080	0.1	36	8.5

Note: 1. The type numbers listed have zener voltage min/max as shown. Device tolerance of ±2% are indicated by a “B” instead of a “C”. Zener voltage is measured with the device junction in thermal equilibrium at the lead temperature of 30°C±1°C and 3/8” lead length.

2. ZzT and ZzK are measured by dividing the ac voltage drop across the device by the ac current applied. The specified limits are for Iz(ac)=0.1Iz(dc) with the ac frequency = 1k Hz.

3. This data was calculated using nominal voltages. The maximum current handling capability on a worse case basis is limited by the actual zener voltage at the operating point and the powered derating curve.

**DO-35(Glass) Dimension**



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	φ0.0181	φ0.0220	φ0.46	φ0.56	D	0.9646	1.2811	24.50	32.54
B	0.9646	1.2811	24.50	32.54	E	φ0.0602	φ0.0787	φ1.53	φ2.00
C	0.1200	0.1700	3.05	4.20					

**Notes :** 1.Controlling dimension : millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

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