

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



### Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤75°C, Lead Length = 3/8"	P <sub>D</sub>	500	mW
Derate Above 75°C		4.0	mW/°C
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C

Note 1: Some part number series have lower JEDEC registered ratings.

### Specification Features:

- Zener Voltage Range = 2.4V to 91V
- ESD Rating of Class 3 (>6 KV) per Human Body Model
- DO-35 Package (DO-204AH)
- Double Slug Type Construction
- Metallurgical Bonded Construction
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Lead Finish

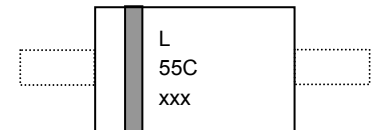
### Specification Features:

**Case** : Double slug type, hermetically sealed glass

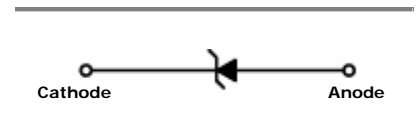
**Finish** : All external surfaces are corrosion resistant and leads are readily solderable

**Polarity** : Cathode indicated by polarity band

**Mounting:** Any



L = Logo  
 79Cxxx = BZX79CxxxDevice Code



**ELECTRICAL CHARACTERIZATION** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Device (Note 2.)	Device Marking	Zener Voltage (Note 2.)			Zener Impedance (Note 4.)	Max Reverse Leakage Current $I_R$ at $V_R$			$I_{ZM}$ (Note 3.)
		$V_Z$ (Volts)		@ $I_{ZT}$	$Z_{ZT}$ @ $I_{ZT}$	$T_{amb} 25^\circ\text{C}$	$T_{amb} 125^\circ\text{C}$	$V_R$	
		Min	Max	(mA)	( $\Omega$ )	( $\mu\text{A}$ )	( $\mu\text{A}$ )	(Volts)	(mA)
BZX55C2V4	55C2V4	2.28	2.56	85	5	50	100	1	155
BZX55C2V7	55C2V7	2.5	2.9	85	5	10	50	1	135
BZX55C3V0	55C3V0	2.8	3.2	85	5	4	40	1	125
BZX55C3V3	55C3V3	3.1	3.5	85	5	2	40	1	115
BZX55C3V6	55C3V6	3.4	3.8	85	5	2	40	1	105
BZX55C3V9	55C3V9	3.7	4.1	85	5	2	40	1	95
BZX55C4V3	55C4V3	4.0	4.6	75	5	1	20	1	90
BZX55C4V7	55C4V7	4.4	5.0	60	5	0.5	10	1	85
BZX55C5V1	55C5V1	4.8	5.4	35	5	0.1	2	1	80
BZX55C5V6	55C5V6	5.2	6.0	25	5	0.1	2	1	70
BZX55C6V2	55C6V2	5.8	6.6	10	5	0.1	2	2	64
BZX55C6V8	55C6V8	6.4	7.2	8	5	0.1	2	3	58
BZX55C7V5	55C7V5	7.0	7.9	7	5	0.1	2	5	53
BZX55C8V2	55C8V2	7.7	8.7	7	5	0.1	2	6	47
BZX55C9V1	55C9V1	8.5	9.6	10	5	0.1	2	7	43
BZX55C10	55C10	9.4	10.6	15	5	0.1	2	7.5	40
BZX55C11	55C11	10.4	11.6	20	5	0.1	2	8.5	36
BZX55C12	55C12	11.4	12.7	20	5	0.1	2	9	32
BZX55C13	55C13	12.4	14.1	26	5	0.1	2	10	29
BZX55C15	55C15	13.8	15.6	30	5	0.1	2	11	27
BZX55C16	55C16	15.3	17.1	40	5	0.1	2	12	24
BZX55C18	55C18	16.8	19.1	50	5	0.1	2	14	21
BZX55C20	55C20	18.8	21.1	55	5	0.1	2	15	20
BZX55C22	55C22	20.8	23.3	55	5	0.1	2	17	18
BZX55C24	55C24	22.8	25.6	80	5	0.1	2	18	16
BZX55C27	55C27	25.1	28.9	80	5	0.1	2	20	14
BZX55C30	55C30	28	32	80	5	0.1	2	22	13
BZX55C33	55C33	31	35	80	5	0.1	2	24	12
BZX55C36	55C36	34	38	80	5	0.1	2	27	11
BZX55C39	55C39	37	41	90	2.5	0.1	5	28	10
BZX55C43	55C43	40	46	90	2.5	0.1	5	32	9.2
BZX55C47	55C47	44	50	110	2.5	0.1	5	35	8.5
BZX55C51	55C51	48	54	125	2.5	0.1	10	38	7.8
BZX55C56	55C56	52	60	135	2.5	0.1	10	42	7
BZX55C62	55C62	58	66	150	2.5	0.1	10	47	6.4
BZX55C68	55C68	64	72	160	2.5	0.1	10	51	5.9
BZX55C75	55C75	70	80	170	2.5	0.1	10	56	5.3
BZX55C82	55C82	77	87	200	2.5	0.1	10	62	4.8
BZX55C91	55C91	85	96	250	1	0.1	10	69	4.3

 VF Forward Voltage = 1.3V max @  $I_F = 100\text{mA}$  for all types

## 2. TOLERANCE AND VOLTAGE DESIGNATION

The type numbers listed have zener voltage min/max limits as shown. The measured  $V_z$  is guaranteed to be within specification with device junction in thermal equilibrium.

## 3. MAXIMUM ZENER CURRENT RATINGS ( $I_{ZM}$ )

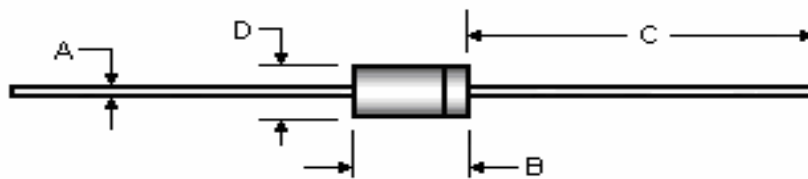
This data was calculated using nominal voltages. The maximum current handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.

## 4. ZENER IMPEDANCE ( $Z_z$ ) DERIVATION

$Z_{ZT}$  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.

## Package Outline

### Case Outline




DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.56	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.52	2.29	0.060	0.090

**Note:** all dimensions are within JEDEC standard.

This datasheet presents technical data of Tak Cheong's Zener Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website <http://www.takcheong.com>.

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