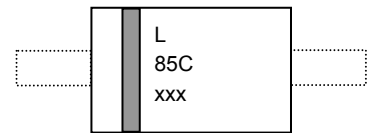


## 1.3 Watt DO-41 Hermetically Sealed Glass Zener Voltage Regulators



### Maximum Ratings

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤50°C, Lead Length = 3/8"	P <sub>D</sub>	1.3	W
Derate Above 50°C		8.67	mW/°C
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C



L = Logo  
85Cxxx = Device Code

### Specification Features:

- Zener Voltage Range = 3.3V to 100V
- ESD Rating of Class 3 (>6 KV) per Human Body Model
- DO-41 Package (DO-204AL)
- Double Slug Type Construction
- Metallurgical Bonded Construction
- Oxide Passivated Die
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Lead Finish

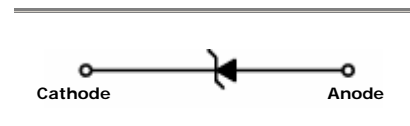
### Specification Features:

**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





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

Device (Note 1.)	Device Marking	Zener Voltage (Note 2 & 3.)			Zener Impedance (Note 4.)			Leakage Current		
		$V_Z$ (Volts)			$@I_{ZT}$	$Z_{ZT} @I_{ZT}$	$Z_{ZK} @I_{ZK}$		$I_R @ V_R$	
		Min	Nom	Max	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A Max}$ )	(Volts)
BZX85C3V3	BZX85C3V3	3.1	3.3	3.5	80	20	400	1	60	1
BZX85C3V6	BZX85C3V6	3.4	3.6	3.8	60	15	500	1	30	1
BZX85C3V9	BZX85C3V9	3.7	3.9	4.1	60	15	500	1	5	1
BZX85C4V3	BZX85C4V3	4.0	4.3	4.6	50	13	500	1	3	1
BZX85C4V7	BZX85C4V7	4.4	4.7	5.0	45	13	600	1	3	1.5
BZX85C5V1	BZX85C5V1	4.8	5.1	5.4	45	10	500	1	1	2
BZX85C5V6	BZX85C5V6	5.2	5.6	6.0	45	7	400	1	1	2
BZX85C6V2	BZX85C6V2	5.8	6.2	6.6	35	4	300	1	1	3
BZX85C6V8	BZX85C6V8	6.4	6.8	7.2	35	3.5	300	1	1	4
BZX85C7V5	BZX85C7V5	7.0	7.5	7.9	35	3	200	0.5	1	4.5
BZX85C8V2	BZX85C8V2	7.7	8.2	8.7	25	5	200	0.5	1	5
BZX85C9V1	BZX85C9V1	8.5	9.1	9.6	25	5	200	0.5	1	6.5
BZX85C10	BZX85C10	9.4	10	10.6	25	7	200	0.5	0.5	7
BZX85C11	BZX85C11	10.4	11	11.6	20	8	300	0.5	0.5	7.7
BZX85C12	BZX85C12	11.4	12	12.7	20	9	350	0.5	0.5	8.4
BZX85C13	BZX85C13	12.4	13	14.1	20	10	400	0.5	0.5	9.1
BZX85C15	BZX85C15	13.8	15	15.6	15	15	500	0.5	0.5	10.5
BZX85C16	BZX85C16	15.3	16	17.1	15	15	500	0.5	0.5	11.0
BZX85C18	BZX85C18	16.8	18	19.1	15	20	500	0.5	0.5	12.5
BZX85C20	BZX85C20	18.8	20	21.2	10	24	600	0.5	0.5	14.0
BZX85C22	BZX85C22	20.8	22	23.3	10	25	600	0.5	0.5	15.5
BZX85C24	BZX85C24	22.8	24	25.6	10	25	600	0.5	0.5	17.0
BZX85C27	BZX85C27	25.1	27	28.9	8	30	750	0.25	0.5	19.0
BZX85C30	BZX85C30	28.0	30	32.0	8	30	1000	0.25	0.5	21.0
BZX85C33	BZX85C33	31.0	33	35.0	8	35	1000	0.25	0.5	23.0
BZX85C36	BZX85C36	34	36	38	8	40	1000	0.25	0.5	25
BZX85C39	BZX85C39	37	39	41	6	45	1000	0.25	0.5	27
BZX85C43	BZX85C43	40	43	46	6	50	1000	0.25	0.5	30
BZX85C47	BZX85C47	44	47	50	4	90	1500	0.25	0.5	33
BZX85C51	BZX85C51	48	51	54	4	115	1500	0.25	0.5	36
BZX85C56	BZX85C56	52	56	60	4	120	2000	0.25	0.5	39
BZX85C62	BZX85C62	58	62	66	4	125	2000	0.25	0.5	43
BZX85C68	BZX85C68	64	68	72	4	130	2000	0.25	0.5	47
BZX85C75	BZX85C75	70	75	80	4	150	2000	0.25	0.5	51
BZX85C82	BZX85C82	77	82	87	2.7	200	3000	0.25	0.5	56
BZX85C91	BZX85C91	85	91	96	2.7	250	3000	0.25	0.5	62
BZX85C100	BZX85C100	96	100	106	2.7	350	3000	0.25	0.5	68

$V_F = 1.2\text{V Max}$  @  $I_F = 200\text{mA}$  for 60V below types, and  $V_F = 1.4\text{V Max}$  @  $I_F = 200\text{mA}$  for 60V above types

---

**1. TOLERANCE AND TYPE NUMBER DESIGNATION ( $V_z$ )**

Tolerance designation – the type numbers listed have zener voltage min/max limits as shown.

**2. SPECIALS AVAILABLE INCLUDE**

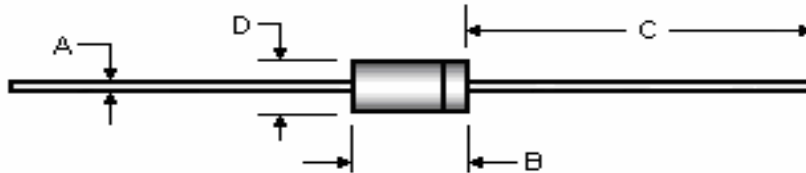
Nominal zener voltages between the voltages shown and tighter voltage, for detailed information on price, availability and delivery, contact you nearest Tak Cheong representative.

**3. ZENER VOLTAGE ( $V_z$ ) MEASUREMENT**

The zener voltage ( $V_z$ ) is tested under pulse conditions such that  $T_j$  is no more than 2°C above  $T_A$ .

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

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 on  $I_{ZT}$  or  $I_{ZK}$ .

**Package Outline**
**Case Outline**


DIM	D0-41			
	Millimeters		Inches	
	Min	Max	Min	Max
<b>A</b>	0.72	0.86	0.028	0.034
<b>B</b>	4.07	5.20	0.160	0.205
<b>C</b>	25.40	---	1.000	---
<b>D</b>	2.04	2.71	0.080	0.107

**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>.

Although information in this datasheet has been carefully checked, no responsibility for the inaccuracies can be assumed by Tak Cheong. Please consult your nearest Tak Cheong's sales office for further assistance.

Tak Cheong reserves the right to make changes without further notice to any products herein to further improve reliability, function or design, cost and productivity.

**TAK CHEONG**<sup>®</sup> and  are registered trademarks of Tak Cheong Electronics (Holdings) Co., Ltd.