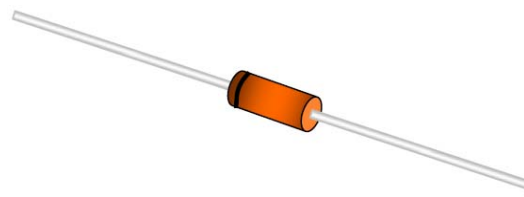


**Small Signal Product**

**5% Tolerance Zener Diode**

**FEATURES**

- Wide zener voltage range selection: 3.3V to 56V
- VZ Tolerance selection of ±5%
- Designed for through-hole device type mounting
- Hermetically sealed glass
- Pb free and RoHS compliant
- High reliability glass passivation insuring parameter stability and protection against junction contamination



**DO-41**

Hermetically Sealed Glass



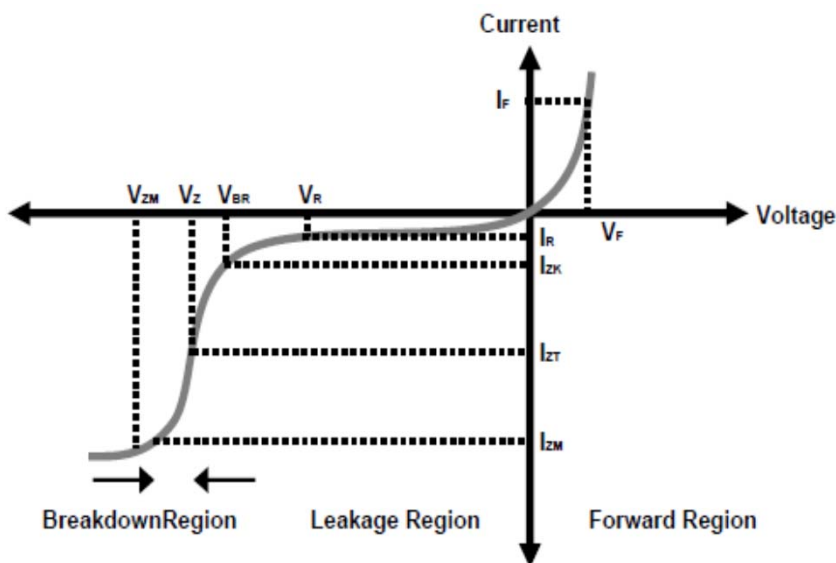
**MECHANICAL DATA**

- Case: DO-41
- High temperature soldering guaranteed: 260°C/10s
- Polarity: Cathode indicated by polarity band
- Weight : 310mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P <sub>D</sub>	1.3	W
Forward Voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>	V
Thermal Resistance (Junction to Ambient)	(Note 1) R <sub>θJA</sub>	130	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to +200	°C

Note 1: Valid provided that electrodes are kept at ambient temperature .

**Zener I vs. V Characteristics**



- V<sub>BR</sub> : Voltage at I<sub>ZK</sub>
- I<sub>ZK</sub> : Test current for voltage V<sub>BR</sub>
- Z<sub>ZK</sub> : Dynamic impedance at I<sub>ZK</sub>
- I<sub>ZT</sub> : Test current for voltage V<sub>Z</sub>
- V<sub>Z</sub> : Voltage at current I<sub>ZT</sub>
- Z<sub>ZT</sub> : Dynamic impedance at I<sub>ZT</sub>
- I<sub>ZM</sub> : Maximum steady state current
- V<sub>ZM</sub> : Voltage at I<sub>ZM</sub>

## Small Signal Product

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

Part Number	Marking Code	$V_Z$ @ $I_{ZT}$ (Volt)			$I_{ZT}$ (mA)	$Z_{ZT}$ @ $I_{ZT}$ ( $\Omega$ ) Max	$I_{ZK}$ (mA)	$Z_{ZK}$ @ $I_{ZK}$ ( $\Omega$ ) Max	$I_R$ @ $V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (V)
		Min	Nom	Max						
BZX85C3V3	BZX85C3V3	3.1	3.3	3.5	80	20	1	400	40	1
BZX85C3V6	BZX85C3V6	3.4	3.6	3.8	60	20	1	500	20	1
BZX85C3V9	BZX85C3V9	3.7	3.9	4.1	60	15	1	500	20	1
BZX85C4V3	BZX85C4V3	4.0	4.3	4.6	50	13	1	500	3	1
BZX85C4V7	BZX85C4V7	4.4	4.7	5.0	45	13	1	500	3	1
BZX85C5V1	BZX85C5V1	4.8	5.1	5.4	45	10	1	500	1	1.5
BZX85C5V6	BZX85C5V6	5.2	5.6	6.0	45	7	1	400	1	2
BZX85C6V2	BZX85C6V2	5.8	6.2	6.6	35	4	1	300	1	3
BZX85C6V8	BZX85C6V8	6.4	6.8	7.2	35	3.5	1	300	1	4
BZX85C7V5	BZX85C7V5	7.0	7.5	7.9	35	3	0.5	200	1	4.5
BZX85C8V2	BZX85C8V2	7.7	8.2	8.7	25	5	0.5	200	1	6.2
BZX85C9V1	BZX85C9V1	8.5	9.1	9.6	25	5	0.5	200	1	6.9
BZX85C10	BZX85C10	9.4	10	10.6	25	7	0.5	200	0.5	7.5
BZX85C11	BZX85C11	10.4	11	11.6	20	8	0.5	300	0.5	8.2
BZX85C12	BZX85C12	11.4	12	12.7	20	9	0.5	350	0.5	9.1
BZX85C13	BZX85C13	12.4	13	14.1	20	10	0.5	400	0.5	10
BZX85C15	BZX85C15	13.8	15	15.6	15	15	0.5	500	0.5	11
BZX85C16	BZX85C16	15.3	16	17.1	15	15	0.5	500	0.5	12
BZX85C18	BZX85C18	16.8	18	19.1	15	20	0.5	500	0.5	13
BZX85C20	BZX85C20	18.8	20	21.2	10	24	0.5	600	0.5	15
BZX85C22	BZX85C22	20.8	22	23.3	10	25	0.5	600	0.5	16
BZX85C24	BZX85C24	22.8	24	25.6	10	25	0.5	600	0.5	18
BZX85C27	BZX85C27	25.1	27	28.9	8	30	0.25	750	0.5	20
BZX85C30	BZX85C30	28.0	30	32.0	8	30	0.25	1000	0.5	22
BZX85C33	BZX85C33	31.0	33	35.0	8	35	0.25	1000	0.5	24
BZX85C36	BZX85C36	34.0	36	38.0	8	40	0.25	1000	0.5	25
BZX85C39	BZX85C39	37.0	39	41.0	6	45	0.25	1000	0.5	27
BZX85C43	BZX85C43	40.0	43	46.0	6	50	0.25	1000	0.5	30
BZX85C47	BZX85C47	44.0	47	50.0	4	90	0.25	1500	0.5	33
BZX85C51	BZX85C51	48.0	51	54.0	4	115	0.25	1500	0.5	36
BZX85C56	BZX85C56	52.0	56	60.0	4	120	0.25	2000	0.5	39

 Notes : 1. The Zener Voltage ( $V_Z$ ) is tested under pulse condition of 10ms.

 2. The device numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .

3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Taiwan Semiconductor representative.

 4. 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  $I_{ZK}$ .

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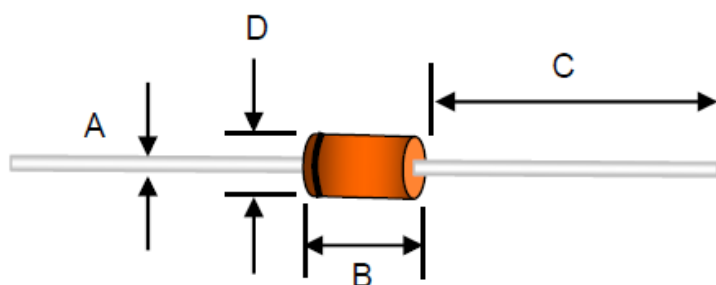
ORDERING INFORMATION					
PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
BZX85Cxxx (Note1)	(Note 2)	R0	G	DO-41	5K / 14" Reel
		A0			3K / Box (Ammo)

Note 1: "xxx" defines voltage from 3.3V (BZX85C3V3) to 56V (BZX85C56)

Note 2: Manufacture special control, if empty means no special control requirement.

EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BZX85C56 R0G	BZX85C56		R0	G	Green compound
BZX85C56-L0 R0G	BZX85C56	L0	R0	G	Green compound

PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.68	0.90	0.027	0.035
B	3.70	5.20	0.146	0.205
C	22.00	-	0.866	-
D	2.00	2.80	0.079	0.110

Small Signal Product

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