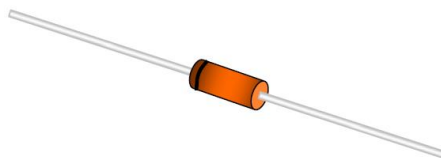


Small Signal Product

5% Tolerance Zener Diode

FEATURES

- Wide zener voltage range selection: 3.3V to 56V
- VZ Tolerance selection of $\pm 5\%$
- 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



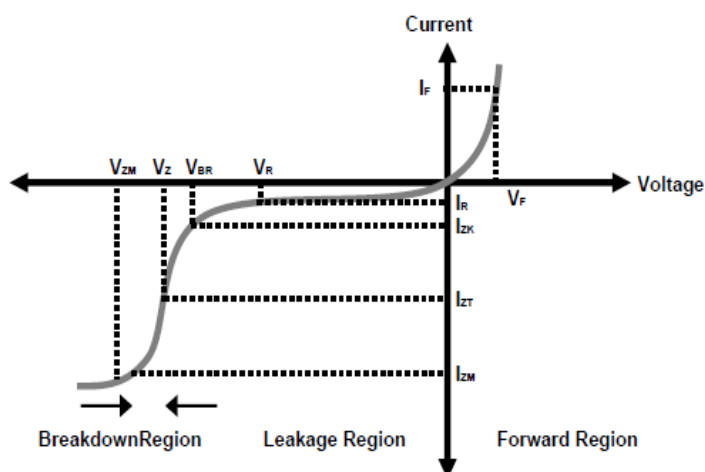
MECHANICAL DATA

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_D	1.3	W
Forward Voltage $I_F = 10 \text{ mA}$	V_F	1.2	V
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	130	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	- 65 to +200	$^\circ\text{C}$

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

Zener I vs. V Characteristics



- V_{BR} : Voltage at I_{ZK}
- I_{ZK} : Test current for voltage V_{BR}
- Z_{ZK} : Dynamic impedance at I_{ZK}
- I_{ZT} : Test current for voltage V_Z
- V_Z : Voltage at current I_{ZT}
- Z_{ZT} : Dynamic impedance at I_{ZT}
- I_{ZM} : Maximum steady state current
- V_{ZM} : Voltage at I_{ZM}

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} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) 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} .

Small Signal Product

ORDERING INFORMATION

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

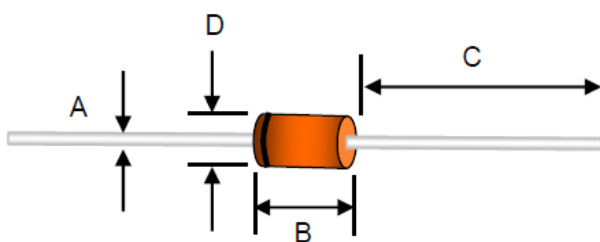
Note 1: "xxx" defines voltage from 3.3V (BZX85C3V3) to 56V (BZX85C56)

Note 2: Whole series with green compound.

EXAMPLE

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BZX85C3V3 R0G	BZX85C3V3	R0	G	Green compound

PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.50	0.90	0.020	0.035
B	3.50	5.20	0.138	0.205
C	22.00	--	0.866	--
D	1.80	2.80	0.071	0.110

MARKING DIAGRAM



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[BZX85C22](#) [BZX85C24](#) [BZX85C27](#) [BZX85C30](#) [BZX85C33](#) [BZX85C36](#) [BZX85C39](#) [BZX85C3V3](#) [BZX85C3V6](#)
[BZX85C3V9](#) [BZX85C43](#) [BZX85C47](#) [BZX85C4V3](#) [BZX85C4V7](#) [BZX85C51](#) [BZX85C56](#) [BZX85C5V1](#) [BZX85C5V6](#)
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[BZX85C9V1](#) [BZX85C10 R0](#) [BZX85C13 R0](#) [BZX85C43 R0](#) [BZX85C3V9 R0](#) [BZX85C4V7 R0](#) [BZX85C47 R0G](#)
[BZX85C18 R0G](#) [BZX85C5V6 R0](#) [BZX85C5V1 R0G](#) [BZX85C36 R0G](#) [BZX85C39 R0G](#) [BZX85C33 R0G](#) [BZX85C11](#)
[R0G](#) [BZX85C7V5 R0G](#) [BZX85C9V1 R0](#) [BZX85C13 R0G](#) [BZX85C24 R0](#) [BZX85C56 R0G](#) [BZX85C3V6 R0G](#)
[BZX85C22 R0G](#) [BZX85C6V2 R0G](#) [BZX85C3V3 R0G](#) [BZX85C24 R0G](#) [BZX85C8V2 R0G](#) [BZX85C6V8 R0G](#)
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