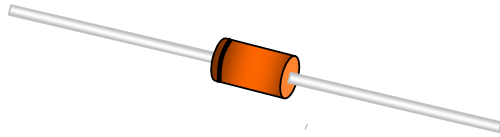


Small Signal Diode



Features

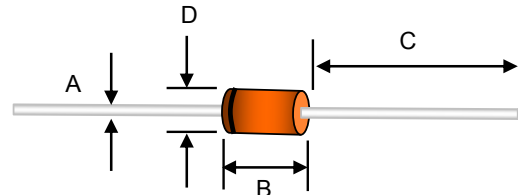
- Wide zener voltage range selection : 3.3V to 56V
- V_Z Tolerance Selection of $\pm 5\%$
- Designed for through-hole Device Type Mounting.
- Hermetically Sealed Glass.
- Pb free version and RoHS compliant
- High reliability glass passivation insuring parameter stability and protection against junction contamination.

Mechanical Data

- Case :DO-41 Solder Hot Dip Tin (Sn) lead finish
- Lead: Axial leads, solderable per MIL-STD-202, Method 2025
- Polarity : Indicated by cathode band
- Weight : 310 mg

BZX85C3V3-BZX85C56 1.3W,5% Tolerance Zener Diode

DO-41 Axial Lead
HERMETICALLY SEALED GLASS



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.68	0.81	0.027	0.032
B	3.70	4.25	0.146	0.167
C	25.40	-	1.000	-
D	2.10	2.60	0.083	0.102

Ordering Information

Part No.	Package code	Package	Packing
BZX85C3V3-56	A0	DO-41	3Kpcs / Ammo
BZX85C3V3-56	R0	DO-41	5Kpcs / 14" Reel

Maximum Ratings and Electrical Characteristics

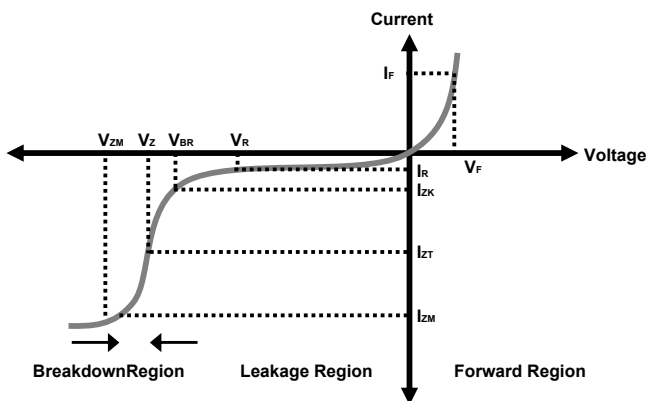
Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	1.3	W
Forward Voltage	V_F	1.2	V
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	130	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 175	°C

Notes: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 Diode
Electrical Characteristics

Ta = 25°C unless otherwise noted

V_F Forward Voltage = 1.2V Maximum @ I_F = 200 mA for all part numbers

Part Number	Marking Code	V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{VT} @ 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	4.1	4.3	4.5	50	13	1	500	3	1
BZX85C4V7	BZX85C4V7	4.5	4.7	4.9	45	13	1	600	3	1
BZX85C5V1	BZX85C5V1	4.8	5.1	5.4	45	10	1	500	1	1.5
BZX85C5V6	BZX85C5V6	5.3	5.6	5.9	45	7	1	400	1	2
BZX85C6V2	BZX85C6V2	5.9	6.2	6.5	35	4	1	300	1	3
BZX85C6V8	BZX85C6V8	6.5	6.8	7.1	35	3.5	1	300	1	4
BZX85C7V5	BZX85C7V5	7.1	7.5	7.9	35	3	0.5	200	1	4.5
BZX85C8V2	BZX85C8V2	7.8	8.2	8.6	25	5	0.5	200	1	6.2
BZX85C9V1	BZX85C9V1	8.6	9.1	9.6	25	5	0.5	200	1	6.9
BZX85C10	BZX85C10	9.5	10	10.5	25	7	0.5	200	0.5	7.5
BZX85C11	BZX85C11	10.5	11	11.6	20	8	0.5	300	0.5	8.2
BZX85C12	BZX85C12	11.4	12	12.6	20	9	0.5	350	0.5	9.1
BZX85C13	BZX85C13	12.4	13	13.7	20	10	0.5	400	0.5	10
BZX85C15	BZX85C15	14.3	15	15.8	15	15	0.5	500	0.5	11
BZX85C16	BZX85C16	15.2	16	16.8	15	15	0.5	500	0.5	12
BZX85C18	BZX85C18	17.1	18	18.9	15	20	0.5	500	0.5	13
BZX85C20	BZX85C20	19.0	20	21.0	10	24	0.5	600	0.5	15
BZX85C22	BZX85C22	20.9	22	23.1	10	25	0.5	600	0.5	16
BZX85C24	BZX85C24	22.8	24	25.2	10	25	0.5	600	0.5	18
BZX85C27	BZX85C27	25.7	27	28.4	8	30	0.25	750	0.5	20
BZX85C30	BZX85C30	28.5	30	31.5	8	30	0.25	1000	0.5	22
BZX85C33	BZX85C33	31.4	33	34.7	8	35	0.25	1000	0.5	24
BZX85C36	BZX85C36	34.2	36	37.8	8	40	0.25	1000	0.5	25
BZX85C39	BZX85C39	37.1	39	41.0	6	45	0.25	1000	0.5	27
BZX85C43	BZX85C43	40.9	43	45.2	6	50	0.25	1000	0.5	30
BZX85C47	BZX85C47	44.7	47	49.4	4	90	0.25	1500	0.5	33
BZX85C51	BZX85C51	48.5	51	53.6	4	115	0.25	1500	0.5	36
BZX85C56	BZX85C56	53.2	56	58.8	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 **±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}.

Rating and Characteristic Curves

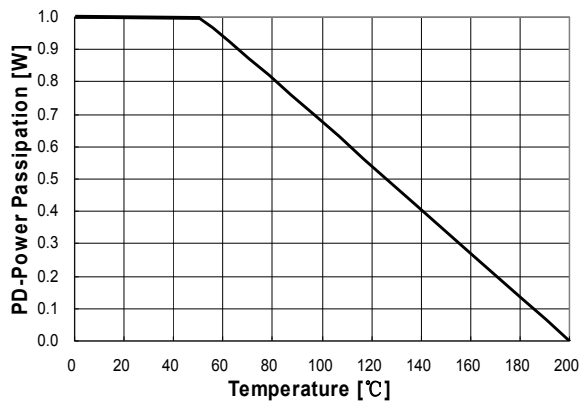


Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

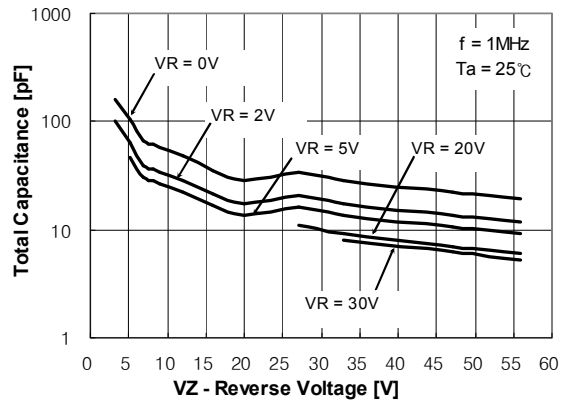


Figure 2. Total Capacitance

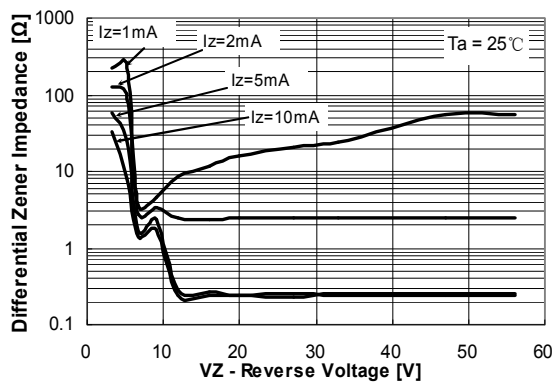


Figure 3. Differential Impedance vs. Zener Voltage

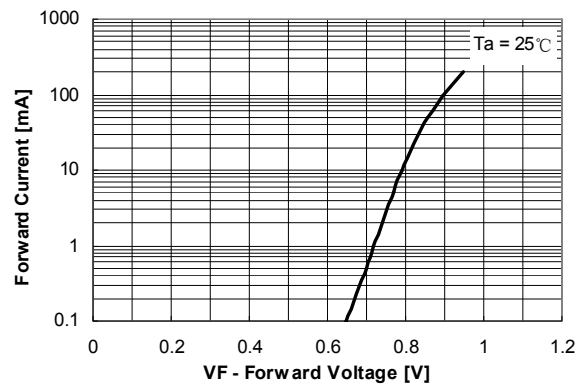


Figure 4. Forward Current vs. Forward Voltage

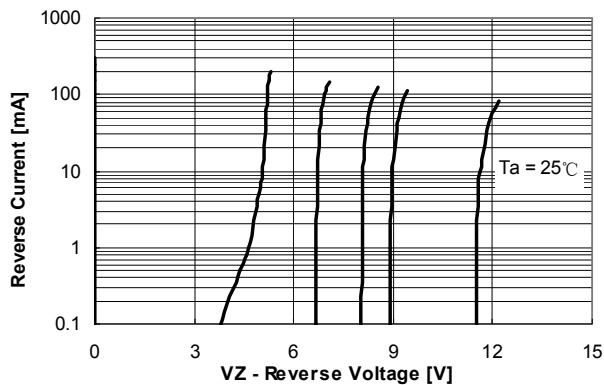


Figure 5. Reverse Current vs. Reverse Voltage

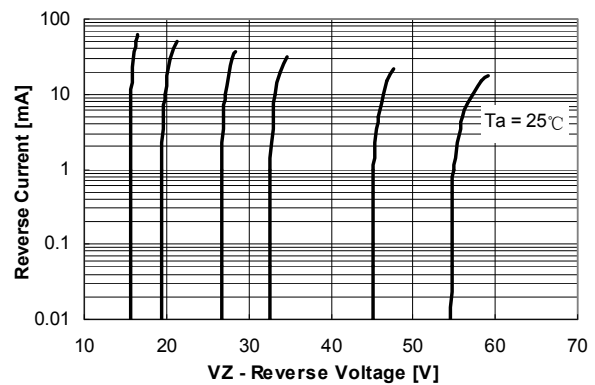


Figure 6. Reverse Current vs. Reverse Voltage