

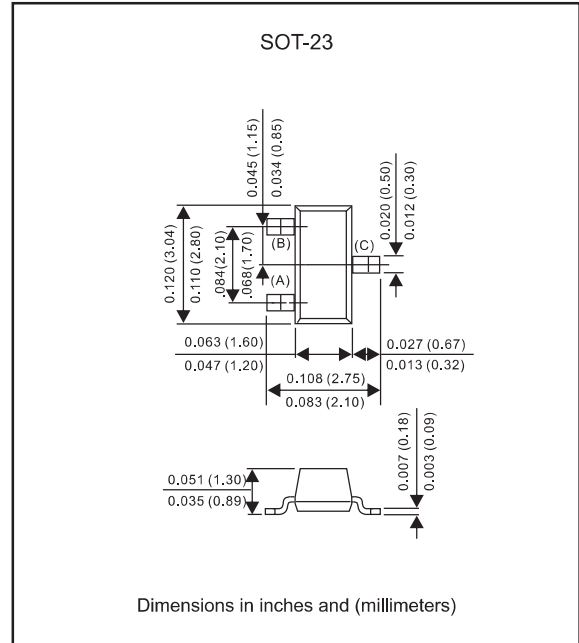
Features

- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.4V to 39V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free.
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Power Dissipation at $T_A=25^\circ\text{C}$	Mounted on Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.	P_D			300	mW
Thermal Resistance	Junction to Ambient	$R_{\theta JA}$		417		$^\circ\text{C}/\text{W}$
Operating junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+150	$^\circ\text{C}$

Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Part No.	Marking code	Zener voltage			Zener impedance				Leakage current	
		$V_Z @ I_{ZT}$ (Volts)			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	I_R	V_R
		Min.	Nom.	Max.	mA	(Ω)Max	(Ω)Max	mA	(μA)Max	Volts
BZX84B2V4-Q1	2Z11	2.35	2.4	2.45	5.0	100	275	1	50	1.0
BZX84B2V7-Q1	2Z12	2.65	2.7	2.75	5.0	100	600	1	20	1.0
BZX84B3V0-Q1	2Z13	2.94	3.0	3.06	5.0	95	600	1	10	1.0
BZX84B3V3-Q1	2Z14	3.23	3.3	3.37	5.0	95	600	1	5	1.0
BZX84B3V6-Q1	2Z15	3.53	3.6	3.67	5.0	90	600	1	5	1.0
BZX84B3V9-Q1	2Z16	3.82	3.9	3.98	5.0	90	600	1	3	1.0
BZX84B4V3-Q1	2Z17	4.21	4.3	4.39	5.0	90	600	1	3	1.0
BZX84B4V7-Q1	2Z1	4.61	4.7	4.79	5.0	80	500	1	3	2.0
BZX84B5V1-Q1	2Z2	5.00	5.1	5.20	5.0	60	480	1	2	2.0
BZX84B5V6-Q1	2Z3	5.49	5.6	5.71	5.0	40	400	1	1	2.0
BZX84B6V2-Q1	2Z4	6.08	6.2	6.32	5.0	10	150	1	3	4.0
BZX84B6V8-Q1	2Z5	6.66	6.8	6.94	5.0	15	80	1	2	4.0
BZX84B7V5-Q1	2Z6	7.35	7.5	7.65	5.0	15	80	1	1	5.0
BZX84B8V2-Q1	2Z7	8.04	8.2	8.36	5.0	15	80	1	0.7	5.0
BZX84B9V1-Q1	2Z8	8.92	9.1	9.28	5.0	15	100	1	0.5	6.0
BZX84B10-Q1	2Z9	9.80	10	10.2	5.0	20	150	1	0.2	7.0
BZX84B11-Q1	2Y1	10.8	11	11.2	5.0	20	150	1	0.1	8.0
BZX84B12-Q1	2Y2	11.8	12	12.2	5.0	25	150	1	0.1	8.0
BZX84B13-Q1	2Y3	12.7	13	13.3	5.0	30	170	1	0.1	8.0
BZX84B15-Q1	2Y4	14.7	15	15.3	5.0	30	200	1	0.05	10.5
BZX84B16-Q1	2Y5	15.7	16	16.3	5.0	40	200	1	0.05	11.2
BZX84B18-Q1	2Y6	17.6	18	18.4	5.0	45	225	1	0.05	12.6
BZX84B20-Q1	2Y7	19.6	20	20.4	5.0	55	225	1	0.05	14.0
BZX84B22-Q1	2Y8	21.6	22	22.4	5.0	55	250	1	0.05	15.4
BZX84B24-Q1	2Y9	23.5	24	24.5	5.0	70	250	1	0.05	16.8
BZX84B27-Q1	2Y10	26.5	27	27.5	2.0	80	300	0.5	0.05	18.9
BZX84B30-Q1	2Y11	29.4	30	30.6	2.0	80	300	0.5	0.05	21.0
BZX84B33-Q1	2Y12	32.3	33	33.7	2.0	80	325	0.5	0.05	23.1
BZX84B36-Q1	2Y13	35.3	36	36.7	2.0	90	350	0.5	0.05	25.2
BZX84B39-Q1	2Y14	38.2	39	39.8	2.0	130	350	0.5	0.05	27.3

Note : 1. 2% tolerance of Zener voltage
 2. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C .

Rating and characteristic curves (BZX84B2V4-Q1 THRU BZX84B39-Q1)

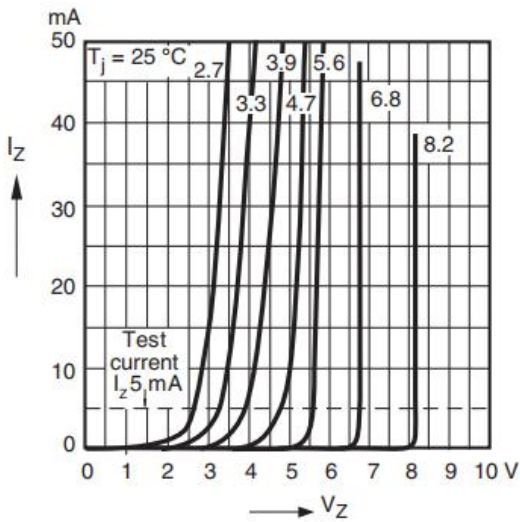


Fig. 1-Zener Characteristic1

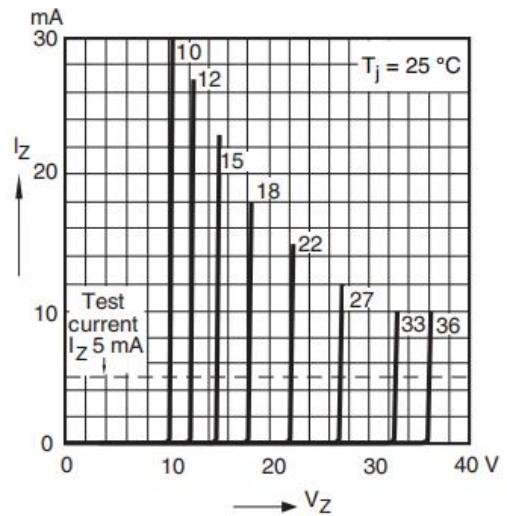


Fig. 2-Zener Characteristic2

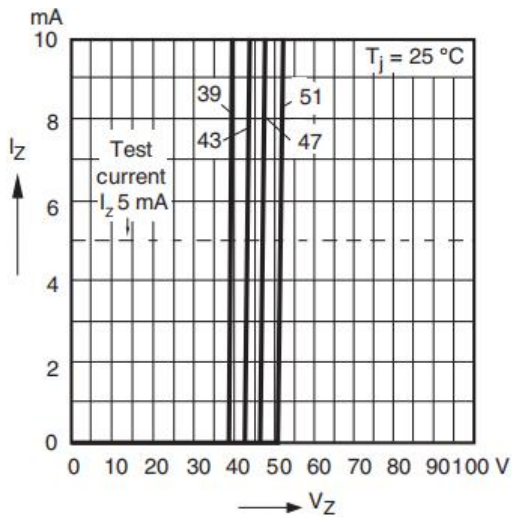


Fig. 3-Zener Characteristic3

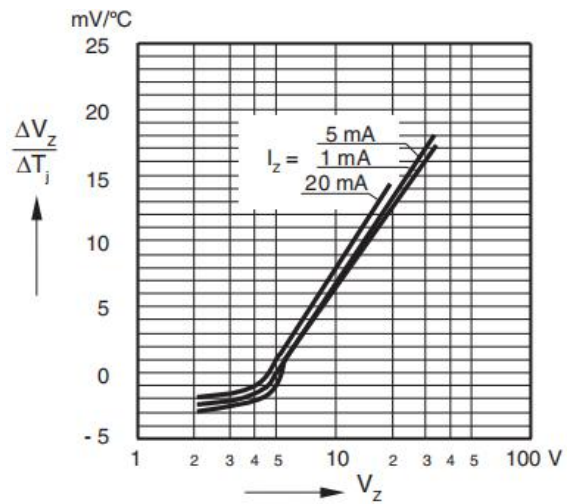


Fig. 4-Temperature Dependence of Zener Voltage vs. Zener Voltage

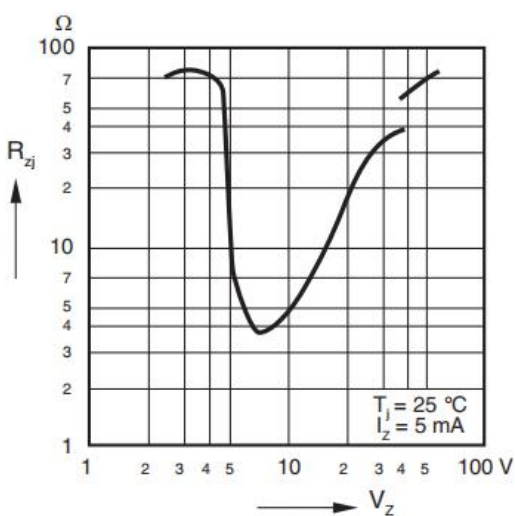


Fig. 5-Dynamic Resistance vs. Zener Voltage

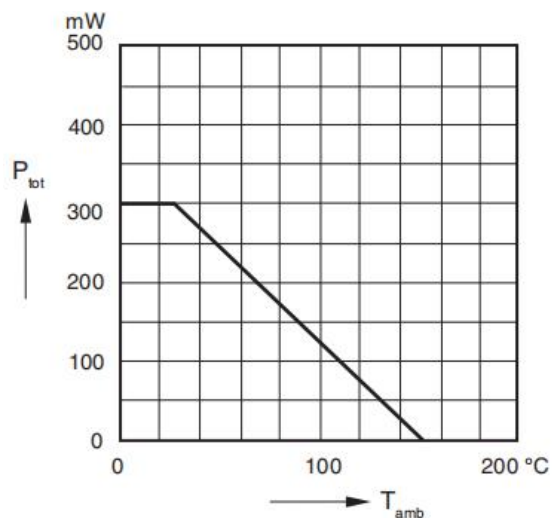
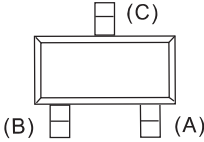
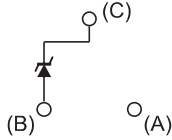


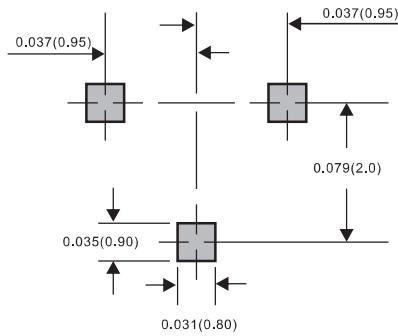
Fig. 6-Power Dissipation vs. Ambient Temperature

Pinning information

Pin	Simplified outline	Symbol
PinA no connection PinB anode PinC cathode		

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)