Silicon - Z-Diode

BZX85C7V5

7.5V

1.3W Z-Diode

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

Datasheet Rev. 1.3 – 03/19 – data without warranty / liability

BZX85C3V3 – BZX85C33

1 W SILICON ZENER DIODES

ABSOLUTE MAXIMUM RATINGS (Note 1)

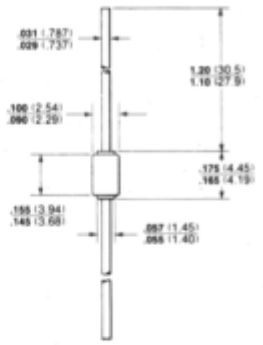
Temperatures

Storage Temperature Range	−65°C to +200°C
Maximum Junction Operating Temperature	+175°C
Lead Temperature	+260°C

Power Dissipation (Note 2)

Maximum Total Power Dissipation at 50°C Ambient	1.3 W
Linear Power Derating Factor (from 50°C)	10.4 mW/°

DO-41 OUTLINE



NOTES:
Copper clad steel leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.30 gram

ELECTRICAL CHARACTERISTICS (25°C Ambient)

SYMBOL	V_Z		Z_Z	I_{ZT}	Z_{ZK}	I_{ZK}	I_R	V_{RT}	TC	
CHARACTERISTICS	Zener Voltage @I_{ZT}		Maximum Zener Impedance	Test Current	Maximum Zener Knee Impedance @I_{ZK}	Test Current	Maximum Reverse Current @V_{RT}	Test Voltage	Temperature Coefficient of V_Z @I_{ZT}	
	MIN	MAX	@I_{ZT}						MIN	MAX
UNIT	V	V	Ω	mA	Ω	mA	μA	V	%°C	%°C
BZX85C3V3	3.1	3.5	20	80	400	1.0	40	1.0	−0.080	−0.050
BZX85C3V6	3.4	3.8	15	60	500	1.0	20	1.0	−0.080	−0.050
BZX85C3V9	3.7	4.1	15	60	500	1.0	10	1.0	−0.070	−0.020
BZX85C4V3	4.0	4.6	13	50	500	1.0	3.0	1.0	−0.050	+0.010
BZX85C4V7	4.4	5.0	13	45	600	1.0	3.0	1.5	−0.030	+0.040
BZX85C5V1	4.8	5.4	10	45	500	1.0	1.0	2.0	−0.010	+0.040
BZX85C5V6	5.2	6.0	7.0	45	400	1.0	1.0	2.0	0	+0.045
BZX85C6V2	5.8	6.6	4.0	35	300	1.0	1.0	3.0	+0.010	+0.055
BZX85C6V8	6.4	7.2	3.5	35	300	1.0	1.0	4.0	+0.015	+0.060
BZX85C7V5	7.0	7.9	3.0	35	200	0.5	1.0	4.5	+0.020	+0.065
BZX85C8V2	7.7	8.7	5.0	25	200	0.5	1.0	5.0	+0.030	+0.070
BZX85C9V1	8.5	9.8	5.0	25	200	0.5	1.0	6.5	+0.035	+0.075
BZX85C10	9.4	10.6	7.0	25	200	0.5	0.5	7.0	+0.040	+0.080
BZX85C11	10.4	11.6	8.0	20	300	0.5	0.5	7.7	+0.045	+0.080
BZX85C12	11.4	12.7	9.0	20	350	0.5	0.5	8.4	+0.045	+0.085
BZX85C13	12.4	14.1	10	20	400	0.5	0.5	9.1	+0.050	+0.085
BZX85C15	13.8	15.6	15	15	500	0.5	0.5	10.5	+0.055	+0.090
BZX85C16	15.3	17.1	15	15	500	0.5	0.5	11.0	+0.055	+0.090
BZX85C18	16.8	19.1	20	15	500	0.5	0.5	12.5	+0.060	+0.090
BZX85C20	18.8	21.2	24	10	600	0.5	0.5	14.0	+0.060	+0.090
BZX85C22	20.8	23.3	25	10	600	0.5	0.5	15.5	+0.060	+0.095
BZX85C24	22.8	25.6	25	10	600	0.5	0.5	17.0	+0.060	+0.095
BZX85C27	25.1	28.9	30	8.0	750	0.25	0.5	19.0	+0.060	+0.095
BZX85C30	28.0	32.0	30	8.0	1000	0.25	0.5	21.0	+0.060	+0.095
BZX85C33	31.0	35.0	35	8.0	1000	0.25	0.5	23.0	+0.060	+0.095

NOTES:
1. These ratings are limiting values above which the serviceability of the diode may be impaired.
2. These are steady state limits. The factory should be consulted on application involving pulsed or low duty-cycle operation.
3. V_F = 1.0 V (Max) @I_F = 200 mA for all types.
4. For product family characteristic curves, refer to Chapter 4, D14

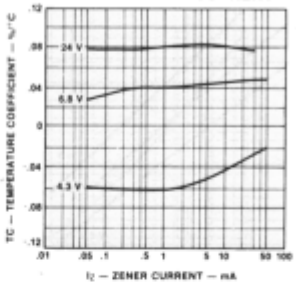
CURVE SET NUMBER D14

1 W ZENER

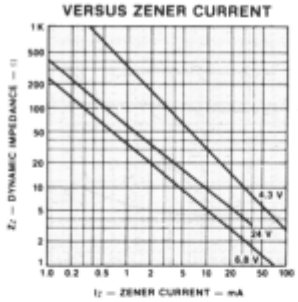
TYPICAL ELECTRICAL CHARACTERISTICS

AT 25°C AMBIENT TEMPERATURE

TEMPERATURE COEFFICIENT VERSUS ZENER CURRENT



DYNAMIC IMPEDANCE VERSUS ZENER CURRENT



POWER DERATING VERSUS AMBIENT TEMPERATURE