

# Silicon - Z-Diode

## **BZX85C12**

12V

1.3W Z-Diode

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

**BZX85C3V3 – BZX85C33****1 W SILICON ZENER DIODES****ABSOLUTE MAXIMUM RATINGS (Note 1)****Temperatures**

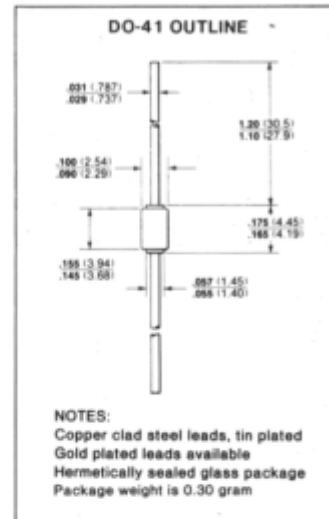
Storage Temperature Range  
Maximum Junction Operating Temperature  
Lead Temperature

–65°C to +200°C  
+175°C  
+260°C

**Power Dissipation (Note 2)**

Maximum Total Power Dissipation at 50°C Ambient  
Linear Power Derating Factor (from 50°C)

1.3 W  
10.4 mW/°

**ELECTRICAL CHARACTERISTICS (25°C Ambient)**

SYMBOL	V <sub>Z</sub>		Z <sub>Z</sub>	I <sub>ZT</sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>RT</sub>	TC	
	Zener Voltage @I <sub>ZT</sub>		Maximum Zener Impedance @I <sub>ZT</sub>	Test Current	Maximum Zener Knee Impedance @I <sub>ZK</sub>	Test Current	Maximum Reverse Current @V <sub>RT</sub>	Test Voltage	Temperature Coefficient of V <sub>Z</sub> @I <sub>ZT</sub>	
	MIN	MAX	Ω		Ω		μA	V	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:**

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- These are steady state limits. The factory should be consulted on application involving pulsed or low duty-cycle operation.
- V<sub>Z</sub> = 1.0 V (Max) @ I<sub>Z</sub> = 200 mA for all types.
- 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

