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FAIRCHILD SEMICONDUCTOR®

September 2013

BZX85C3V3 - BZX85C56
Zener Diodes

Tolerance = 5%

DO-41 Glass Case

COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Units
P_D	Power Dissipation @ T_A = 25°C	1.0	W
	Power Dissipation @ T_L = 25°C at 4 mm distance from the glass package	1.3	
	Derate above 50°C	6.67	mW/°C
T_J, T_{STG}	Operating and Storage Temperature Range	-65 to +200	°C

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Device	Zener Voltage[1]			Zener Impedance			Leakage Current	
	V_Z (V)		I_Z	Z_Z @ I_Z	Z_{ZK} @ I_{ZK}		I_R @ V_R	
	Min.	Max.	mA	(Ω)	(Ω)	(mA)	μA Max.	Volts
BZX85C3V3	3.1	3.5	80	20	400	1	60	1
BZX85C3V6	3.4	3.8	60	15	500	1	30	1
BZX85C3V9	3.7	4.1	60	15	500	1	5	1
BZX85C4V3	4.0	4.6	50	13	500	1	3	1
BZX85C4V7	4.4	5	45	13	600	1	3	1.5
BZX85C5V1	4.8	5.4	45	10	500	1	1	2
BZX85C5V6	5.2	6	45	7	400	1	1	2
BZX85C6V2	5.8	6.6	35	4	300	1	1	3
BZX85C6V8	6.4	7.2	35	3.5	300	1	1	4
BZX85C7V5	7.0	7.9	35	3	200	0.5	1	4.5
BZX85C8V2	7.7	8.7	25	5	200	0.5	1	5
BZX85C9V1	8.5	9.6	25	5	200	0.5	1	6.5
BZX85C10	9.4	10.6	25	7	200	0.5	0.5	7
BZX85C11	10.4	11.6	20	8	300	0.5	0.5	7.7
BZX85C12	11.4	12.7	20	9	350	0.5	0.5	8.4
BZX85C13	12.4	14.1	20	10	400	0.5	0.5	9.1
BZX85C15	13.8	15.6	15	15	500	0.5	0.5	10.5
BZX85C16	15.3	17.1	15	15	500	0.5	0.5	11
BZX85C18	16.8	19.1	15	20	500	0.5	0.5	12.5
BZX85C20	18.8	21.2	10	24	600	0.5	0.5	14
BZX85C22	20.8	23.3	10	25	600	0.5	0.5	15.5
BZX85C24	22.8	25.6	10	25	600	0.5	0.5	17
BZX85C27	25.1	28.9	8	30	750	0.25	0.5	19
BZX85C30	28	32	8	30	1000	0.25	0.5	21
BZX85C33	31	35	8	35	1000	0.25	0.5	23
BZX85C36	34	38	8	40	1000	0.25	0.5	25
BZX85C39	37	41	6	45	1000	0.25	0.5	27
BZX85C43	40	46	6	50	1000	0.25	0.5	30
BZX85C47	44	50	4	90	1500	0.25	0.5	33
BZX85C51	48	54	4	115	1500	0.25	0.5	36
BZX85C56	52	60	4	120	2000	0.25	0.5	39
V_F Forward Voltage = 1.2 V Max @ I_F = 200 mA								

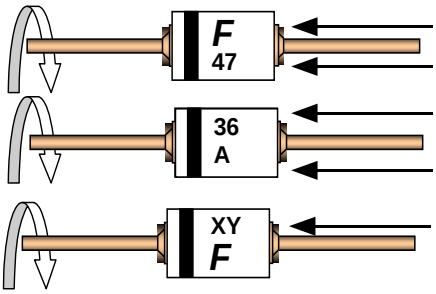
Note:

1. Zener Voltage (V_Z): The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T_L) at 30°C ± 1°C and 3/8" lead length.

Top Mark Information

Device	Line 1	Line 2	Line 3	Line 4	Line 5
BZX85C3V3	LOGO	85C	3V3		XY
BZX85C3V6	LOGO	85C	3V6		XY
BZX85C3V9	LOGO	85C	3V9		XY
BZX85C4V3	LOGO	85C	4V3		XY
BZX85C4V7	LOGO	85C	4V7		XY
BZX85C5V1	LOGO	85C	5V1		XY
BZX85C5V6	LOGO	85C	5V6		XY
BZX85C6V2	LOGO	85C	6V2		XY
BZX85C6V8	LOGO	85C	6V8		XY
BZX85C7V5	LOGO	85C	7V5		XY
BZX85C8V2	LOGO	85C	8V2		XY
BZX85C9V1	LOGO	85C	9V1		XY
BZX85C10	LOGO	85C	10		XY
BZX85C11	LOGO	85C	11		XY
BZX85C12	LOGO	85C	12		XY
BZX85C13	LOGO	85C	13		XY
BZX85C15	LOGO	85C	15		XY
BZX85C16	LOGO	85C	16		XY
BZX85C18	LOGO	85C	18		XY
BZX85C20	LOGO	85C	20		XY
BZX85C22	LOGO	85C	22		XY
BZX85C24	LOGO	85C	24		XY
BZX85C27	LOGO	85C	27		XY
BZX85C30	LOGO	85C	30		XY
BZX85C33	LOGO	85C	33		XY
BZX85C36	LOGO	85C	36		XY
BZX85C39	LOGO	85C	39		XY
BZX85C43	LOGO	85C	43		XY
BZX85C47	LOGO	85C	47		XY
BZX85C51	LOGO	85C	51		XY
BZX85C56	LOGO	85C	56		XY

Top Mark Information (Continued)



1st line: F - Fairchild Logo

2nd line: Device Name - 3rd to 4th characters of device name for 1Nxx series
or 4th to 6th characters for BZXyy series

3rd line: Device Name - 5th to 6th characters of device name for 1Nxx series
or Voltage rating for BZXyy series

4th line: Device Name - 7th to 8th characters of device name for 1Nxx series
or Large Die identification only for BZXyy series

5th line: Date Code - Two Digit - Six Weeks Date Code

General Requirements:

1.0 Cathode Band

2.0 First Line: F - Fairchild Logo

3.0 Second Line: Device name - For 1Nxx series: 3rd to 4th characters of the device name.
For BZxx series: 4th to 6th characters of the device name.

4.0 Third Line: Device name - For 1Nxx series: 5th to 6th characters of the device name.
For BZXyy series: Voltage rating

5.0 Third Line: Device name - For 1Nxx series: 7th to 8th characters of the device name.
(the 8th character is the large die identification)
For BZXyy series: Large Die Identification character

6.0 Fourth Line: Date Code - Two Digit - Six Weeks Date Code
Where: X represents the last digit of the calendar year
Y represents the Six weeks numeric code

7.0 Devices shall be marked as required in the device specification (PID or FSC Test Spec).

8.0 Maximum no. of marking lines: 5

9.0 Maximum no. of digits per line: 3

10.0 FSC logo must be 20% taller than the alphanumeric marking and should occupy the 2 characters of the specified line.

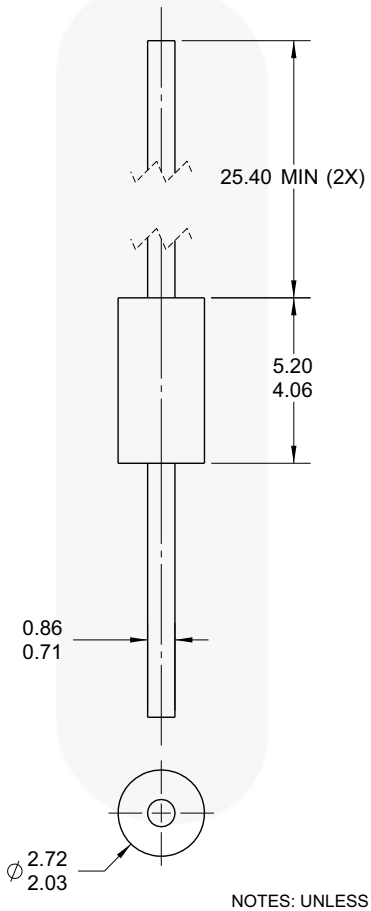
11.0 Marking Font: Arial (Except FSC Logo)

12.0 First character of each marking line must be aligned vertically

13.0 All device markings must be based on Fairchild device specification.

Physical Dimensions

DO-204AL (DO-41)



NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE: JEDEC DO-204 VARIATION AL.
B) PACKAGE BODY CAN BE PLASTIC OR HERMETICALLY SEALED GLASS .
D) ALL DIMENSIONS ARE IN MILLIMETERS.
E) DRAWING FILE NAME: DO41AREV2

Figure 7. AXIAL LEADED, GLASS, JEDEC DO204, VARIATION AL

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