SYNSEMI SEMICONDUCTOR

500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators

AXIAL LEAD
DO-35

Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +200	°C
Operating Junction Temperature	+200	°C
Lead Temperature (1/16" from case for 10 seconds)	+230	°C

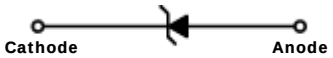
These ratings are limiting values above which the serviceability of the diode may be impaired.

DEVICE MARKING DIAGRAM

L : Logo
Device Code : BZX55Cxxx

Specification Features:

- Zener Voltage Range 3.3 to 56 Volts
- DO-35 Package (JEDEC)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All external surfaces are corrosion resistant and leads are readily solderable
- Cathode indicated by polarity band



ELECTRICAL SYMBOL

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	V_Z @ I_{ZT} (Volts)		I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
	V_Z Min	V_Z Max						
BZX55C 3V3	3.1	3.5	5	85	1	600	2	1
BZX55C 3V6	3.4	3.8	5	85	1	600	2	1
BZX55C 3V9	3.7	4.1	5	85	1	600	2	1
BZX55C 4V3	4	4.6	5	75	1	600	1	1
BZX55C 4V7	4.4	5	5	60	1	600	0.5	1
BZX55C 5V1	4.8	5.4	5	35	1	550	0.1	1
BZX55C 5V6	5.2	6	5	25	1	450	0.1	1
BZX55C 6V2	5.8	6.6	5	10	1	200	0.1	2
BZX55C 6V8	6.4	7.2	5	8	1	150	0.1	3
BZX55C 7V5	7	7.9	5	7	1	50	0.1	5
BZX55C 8V2	7.7	8.7	5	7	1	50	0.1	6.2
BZX55C 9V1	8.5	9.6	5	10	1	50	0.1	6.8
BZX55C 10	9.4	10.6	5	15	1	70	0.1	7.5
BZX55C 11	10.4	11.6	5	20	1	70	0.1	8.2
BZX55C 12	11.4	12.7	5	20	1	90	0.1	9.1
BZX55C 13	12.4	14.1	5	26	1	110	0.1	10
BZX55C 15	13.8	15.6	5	30	1	110	0.1	11
BZX55C 16	15.3	17.1	5	40	1	170	0.1	12
BZX55C 18	16.8	19.1	5	50	1	170	0.1	13
BZX55C 20	18.8	21.1	5	55	1	220	0.1	15
BZX55C 22	20.8	23.3	5	55	1	220	0.1	16

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	V_Z @ I_{ZT} (Volts)		I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) **Max**	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) **Max**	I_R @ V_R (μA) **Max**	V_R (Volts)
	V_Z Min	V_Z Max						
BZX55C 24	22.8	25.6	5	80	1	220	0.1	18
BZX55C 27	25.1	28.9	5	80	1	220	0.1	20
BZX55C 30	28	32	5	80	1	220	0.1	22
BZX55C 33	31	35	5	80	1	220	0.1	24
BZX55C 36	34	38	5	80	1	220	0.1	27
BZX55C 39	37	41	2.5	90	0.5	500	0.1	28
BZX55C 43	40	46	2.5	90	0.5	600	0.1	32
BZX55C 47	44	50	2.5	110	0.5	700	0.1	35
BZX55C 51	48	54	2.5	125	0.5	700	0.1	38
BZX55C 56	52	60	2.5	135	0.5	1000	0.1	42

V_F Forward Voltage = 1.0 V Maximum @ I_F = 100 mA for all types

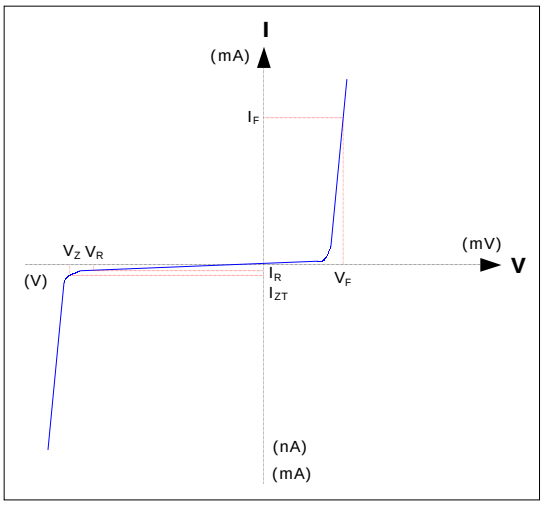
Notes:

1. The type numbers listed have zener voltage min/max limits as shown.
2. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Synsemi representative.
3. 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}.

Electrical Symbol Definition

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Breakdown Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F

Typical Characteristics



Ordering Information

Device	Package	Quantity
BZX55Cxxx	Bulk	10,000
BZX55Cxxx.TB	Tape and Ammo	5,000
BZX55Cxxx.TR	Tape and Reel	10,000

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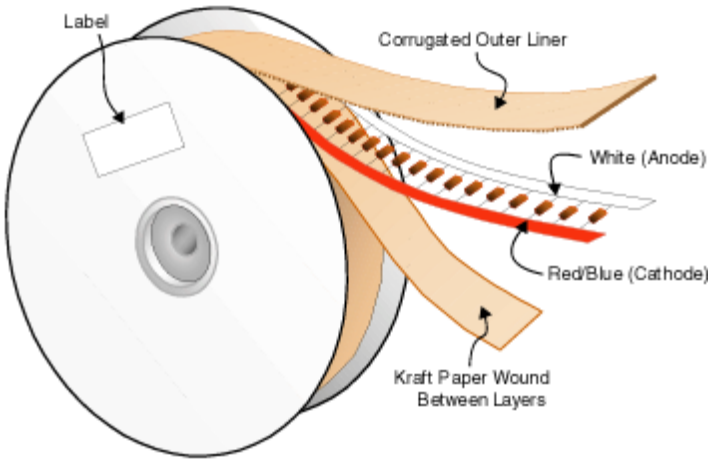
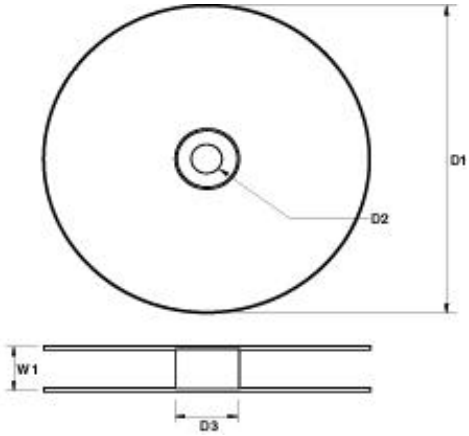
Tape & Reel Packaging Information

Tape & Reel Outline



Reel Dimensions



DIM	Millimeters
D1	356
D2	30
D3	84
W1	77.5

Quantity Per Reel

PKG Type	Quantity Per Reel
DO-35	10,000

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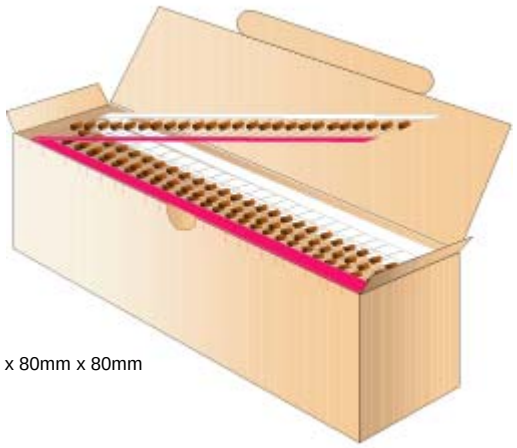
Tape & Ammo Packaging Information

Tape & Ammo Outline

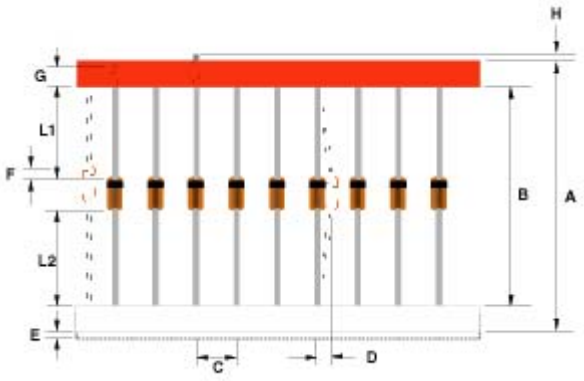


250mm x 80mm x 80mm

Quantity Per Ammo Box

PKG Type	Quantity Per Box
DO-35	5,000

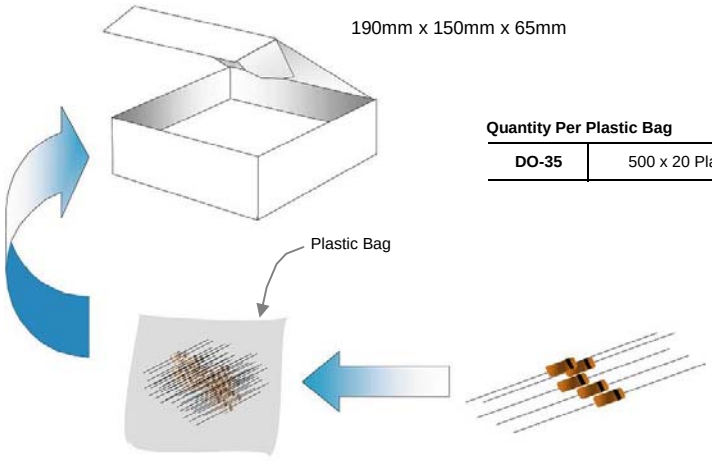
Taping Dimensions



Description	Millimeters	
Standard Width	52	26
Tape Spacing (B)	52 ± 0.69	26 +0.5 / -0
Component Pitch (C)	5.08 ± 0.4	5.08 ± 0.4
Untaped Lead (L1 – L2)	± 0.69	± 0.69
Glass Offset (F)	± 0.69	± 0.69
Bent (D)	1.2 Max	1.2 Max
Tape Width (G)	6.138 ± 0.576	6.138 ± 0.576
Tape Mismatch (E)	0.55 Max	0.55 Max
Taped Lead (G)	3.2 Min	3.2 Min
Lead Beyond Tape (H)	0	0

Bulk Packaging Information

Bulk Outline



Quantity Per Plastic Bag

DO-35	500 x 20 Plastic Bag

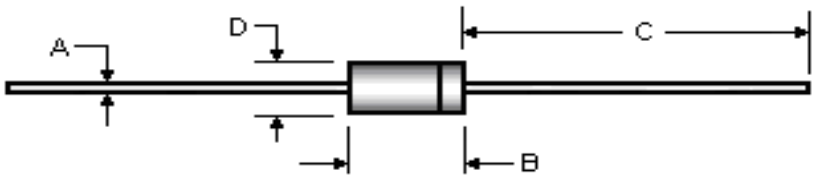
Quantity Per Box

PKG Type	Quantity Per Box
DO-35	10,000

Package Outline

Package	Case Outline

DO-35



DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.55	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.53	2.28	0.060	0.090

Notes:

1. All dimensions are within JEDEC standard.
2. DO35 polarity denoted by cathode band.