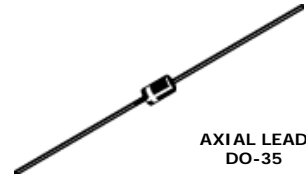




SYNSEMI SEMICONDUCTOR

# 500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



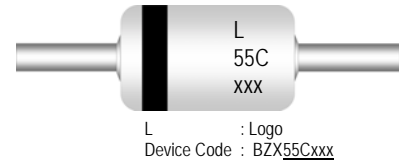
AXIAL LEAD  
DO-35

## Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +200	$^\circ\text{C}$
Operating Junction Temperature	+200	$^\circ\text{C}$
Lead Temperature (1/16" from case for 10 seconds)	+230	$^\circ\text{C}$

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

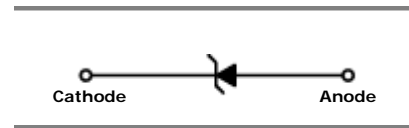
DEVICE MARKING DIAGRAM



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 $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	$V_Z @ I_{ZT}$ (Volts)		$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$I_{ZK}$ (mA)	$Z_{ZK} @ I_{ZK}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) 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



SYNSEMI SEMICONDUCTOR

### Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Device Type	V <sub>Z</sub> @ I <sub>ZT</sub> (Volts)		I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> @ I <sub>ZT</sub> (Ω) Max	I <sub>ZK</sub> (mA)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω) Max	I <sub>R</sub> @ V <sub>R</sub> (μA) Max	V <sub>R</sub> (Volts)
	V <sub>Z</sub> Min	V <sub>Z</sub> 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<sub>F</sub> Forward Voltage = 1.0 V Maximum @ I<sub>F</sub> = 100 mA for all types

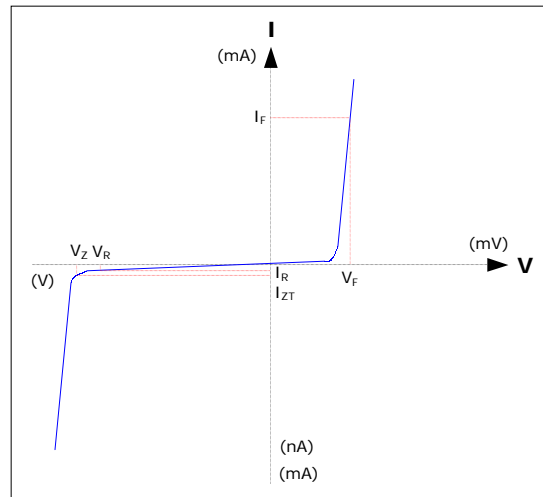
#### Notes:

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<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed to I<sub>ZT</sub> or I<sub>ZK</sub>.

#### Electrical Symbol Definition

Symbol	Parameter
V <sub>Z</sub>	Reverse Zener Voltage @ I <sub>ZT</sub>
I <sub>ZT</sub>	Reverse Current
Z <sub>ZT</sub>	Maximum Zener Impedance @ I <sub>ZT</sub>
I <sub>ZK</sub>	Reverse Current
Z <sub>ZK</sub>	Maximum Zener Impedance @ I <sub>ZK</sub>
I <sub>R</sub>	Reverse Leakage Current @ V <sub>R</sub>
V <sub>R</sub>	Breakdown Voltage
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>

#### Typical Characteristics



#### Ordering Information

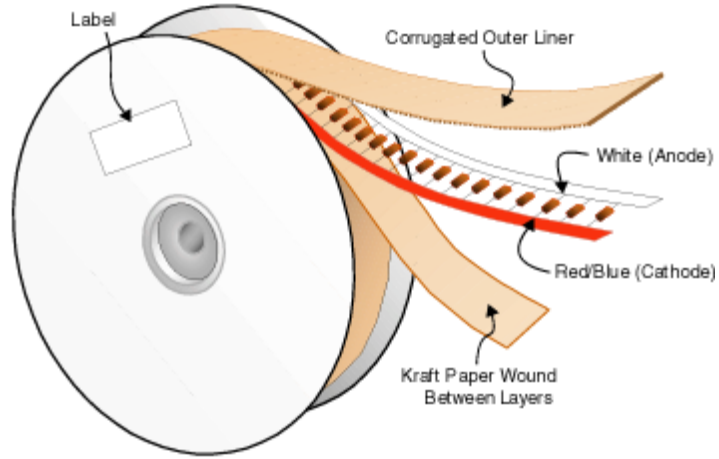
Device	Package	Quantity
BZX55Cxxx	Bulk	10,000
BZX55Cxxx.TB	Tape and Ammo	5,000
BZX55Cxxx.TR	Tape and Reel	10,000



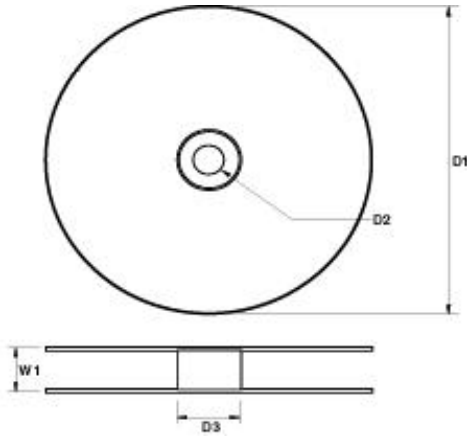
SYNSEMI SEMICONDUCTOR

### Tape & Reel Packaging Information

**Tape & Reel Outline**



**Reel Dimensions**



DIM	Millimeters
D1	356
D2	30
D3	84
W1	77.5

**Quantity Per Reel**

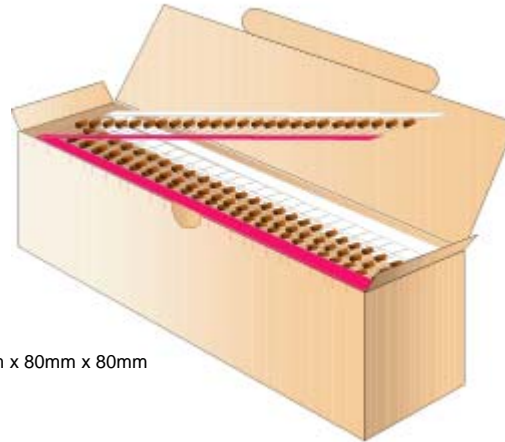
PKG Type	Quantity Per Reel
DO-35	10,000



SYNSEMI SEMICONDUCTOR

## Tape & Ammo Packaging Information

### Tape & Ammo Outline

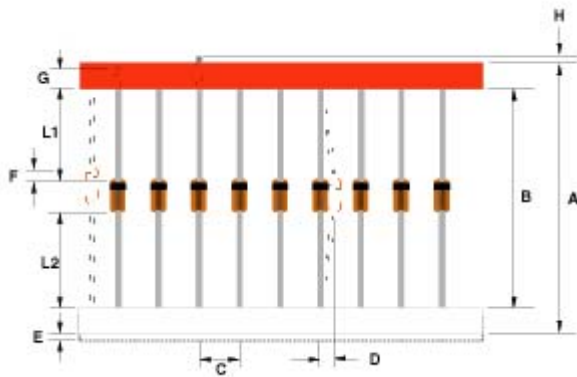


250mm x 80mm x 80mm

### Quantity Per Ammo Box

PKG Type	Quantity Per Box
DO-35	5,000

## Taping Dimensions



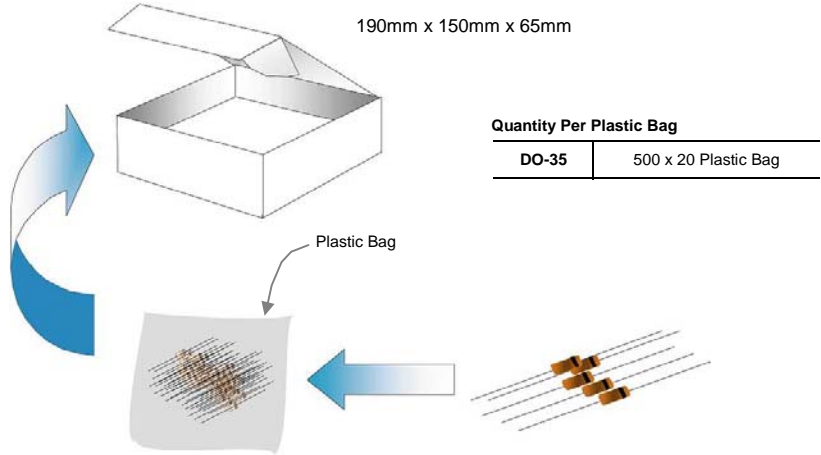
Description	Millimeters	
	Standard Width	52
Tape Spacing (B)	$52 \pm 0.69$	$26 +0.5 / -0$
Component Pitch (C)	$5.08 \pm 0.4$	$5.08 \pm 0.4$
Untaped Lead (L1 – L2)	$\pm 0.69$	$\pm 0.69$
Glass Offset (F)	$\pm 0.69$	$\pm 0.69$
Bent (D)	1.2 Max	1.2 Max
Tape Width (G)	$6.138 \pm 0.576$	$6.138 \pm 0.576$
Tape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



SYNSEMI SEMICONDUCTOR

### Bulk Packaging Information

#### Bulk Outline



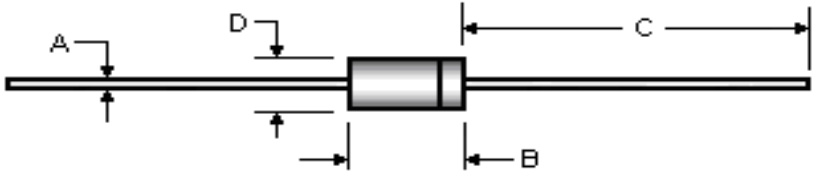
#### Quantity Per Box

PKG Type	Quantity Per Box
DO-35	10,000



SYNSEMI SEMICONDUCTOR

## Package Outline

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

**Notes:**

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