



SYNSEMI SEMICONDUCTOR

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## 1.3 Watt DO-41 Hermetically Sealed Glass Zener Voltage Regulators



AXIAL LEAD DO-41

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

Parameter	Value	Units
Power Dissipation	1.3	W
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	$^\circ\text{C}$



DEVICE MARKING DIAGRAM

L : Logo  
 Device Code : BZX85C3V3

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

### Specification Features:

- Zener Voltage Range 3.3 to 56 Volts
- DO-41 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						
BZX85C 3V3	3.1	3.5	80	20	1	400	40	1
BZX85C 3V6	3.4	3.8	60	20	1	500	20	1
BZX85C 3V9	3.7	4.1	60	15	1	500	20	1
BZX85C 4V3	4	4.6	50	13	1	500	3	1
BZX85C 4V7	4.4	5	45	13	1	500	3	1
BZX85C 5V1	4.8	5.4	45	10	1	500	1	1.5
BZX85C 5V6	5.2	6	45	7	1	400	1	2
BZX85C 6V2	5.8	6.6	35	4	1	300	1	3
BZX85C 6V8	6.4	7.2	35	3.5	1	300	1	4
BZX85C 7V5	7	7.9	35	3	0.5	200	1	4.5
BZX85C 8V2	7.7	8.7	25	5	0.5	200	1	6.2
BZX85C 9V1	8.5	9.6	25	5	0.5	200	1	6.9
BZX85C 10	9.4	10.6	25	7	0.5	200	0.5	7.5
BZX85C 11	10.4	11.6	20	8	0.5	300	0.5	8.2
BZX85C 12	11.4	12.7	20	9	0.5	350	0.5	9.1
BZX85C 13	12.4	14.1	20	10	0.5	400	0.5	10
BZX85C 15	13.8	15.6	15	15	0.5	500	0.5	11
BZX85C 16	15.3	17.1	15	15	0.5	500	0.5	12
BZX85C 18	16.8	19.1	15	20	0.5	500	0.5	13
BZX85C 20	18.8	21.2	10	24	0.5	600	0.5	15
BZX85C 22	20.8	23.3	10	25	0.5	600	0.5	16



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### 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						
BZX85C 24	22.8	25.6	10	25	0.5	600	0.5	18
BZX85C 27	25.1	28.9	8	30	0.25	750	0.5	20
BZX85C 30	28	32	8	30	0.25	1000	0.5	22
BZX85C 33	31	35	8	35	0.25	1000	0.5	24
BZX85C 36	34	38	8	40	0.25	1000	0.5	25
BZX85C 39	37	41	6	45	0.25	1000	0.5	27
BZX85C 43	40	46	6	50	0.25	1000	0.5	30
BZX85C 47	44	50	4	90	0.25	1500	0.5	33
BZX85C 51	48	54	4	115	0.25	1500	0.5	36
BZX85C 56	52	60	4	120	0.25	2000	0.5	39

V<sub>F</sub> Forward Voltage = 1.2 V Maximum @ I<sub>F</sub> = 200 mA for all types

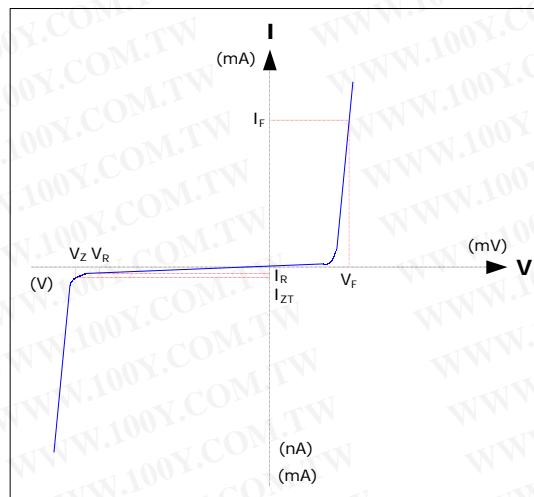
### Notes:

- The type numbers listed have zener voltage min/max limits as shown and have a standard tolerance on the nominal zener voltage.
- 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.
- 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
BZX85Cxxx	Bulk	5,000
BZX85Cxxx.TB	Tape and Ammo	3,000
BZX85Cxxx.TR	Tape and Reel	5,000

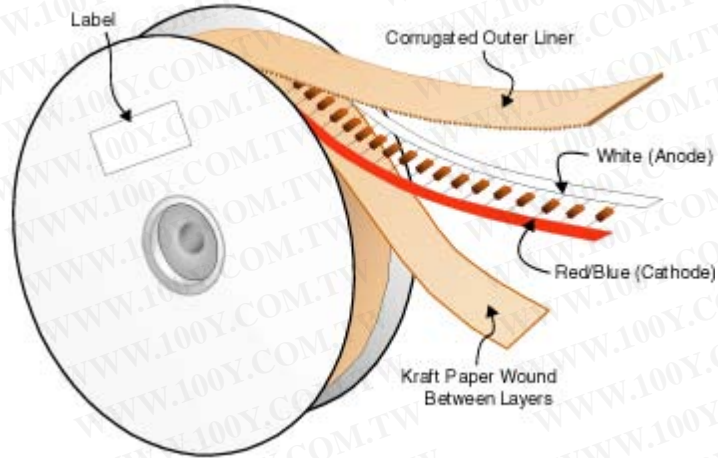


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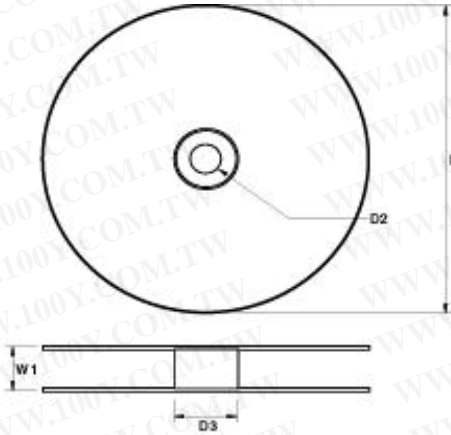
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**Tape & Reel Packaging Information**

**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-41	5,000

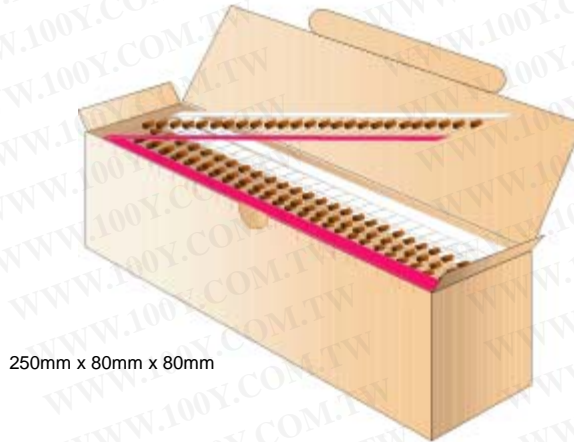


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## Tape & Ammo Packaging Information

### Tape & Ammo Outline

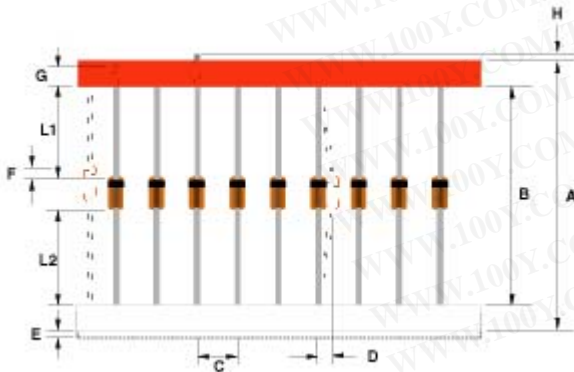


250mm x 80mm x 80mm

### Quantity Per Ammo Box

PKG Type	Quantity Per Box
DO-41	3,000

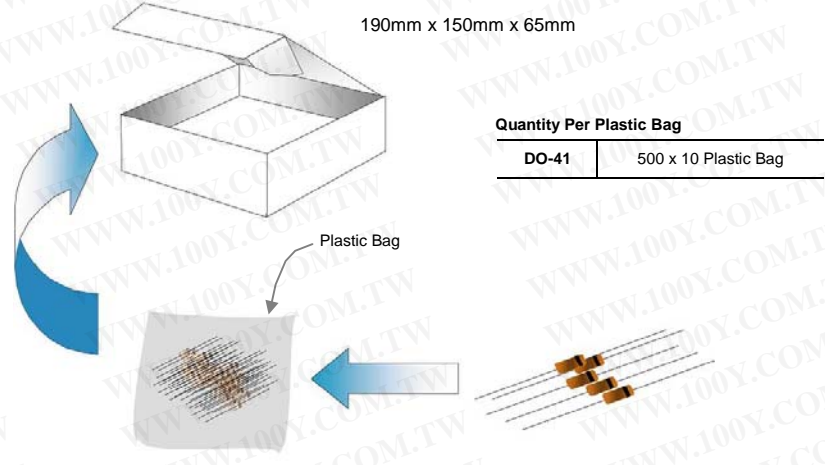
## Taping Dimensions



Description	Millimeters	
	52	26
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

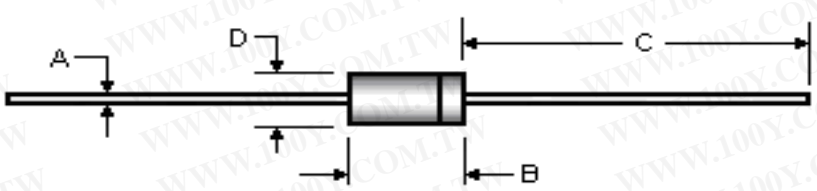
#### Bulk Outline



#### Quantity Per Box

PKG Type	Quantity Per Box
DO-41	5,000

Package Outline

Package	Case Outline				
DO-41					
	<b>DO-41</b>				
	<b>DIM</b>	<b>Millimeters</b>		<b>Inches</b>	
		Min	Max	Min	Max
	<b>A</b>	0.72	0.86	0.028	0.034
	<b>B</b>	4.07	5.20	0.160	0.205
<b>C</b>	25.40	---	1.000	---	
<b>D</b>	2.04	2.71	0.080	0.107	

Notes:

1. All dimensions are within JEDEC standard.
2. DO41 polarity denoted by cathode band.