

# FrelTec

Mathildenstr. 10A  
82319 Starnberg  
Germany

Zener Diode  
DO35

# DO-35

## SPECIFICATION

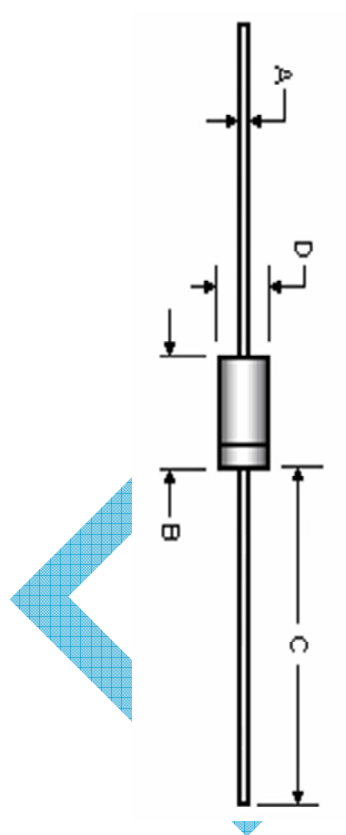
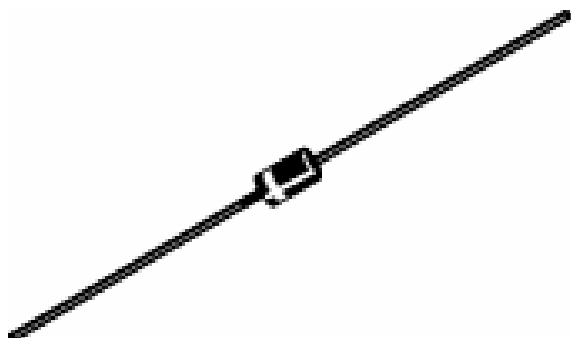
601		TC1N9__Bxx		DO35		B05
Type		Type		Package		Packing
601: Zener Diode		TC1N9__B		DO35		B05: tape in box (paper tape) for 5k pc

**All products according to RoHS (2015/863/EU)**

FrelTec

DO-35

PACKAGE OUTLINE



DIM.	Unit (mm)	
	Min	Max
A	0,46	0,55
B	3,05	5,08
C	25,4	38,10
D	1,53	2,28

# 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	$^\circ\text{C}$

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

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

Device Type	$V_Z@I_{ZT}$ (Volts) Nominal	$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ $\Omega$ Max	$Z_{ZK} @ I_{ZK} = 0,25\text{mA}$ ( $\Omega$ ) Max	$I_r@V_r$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
TC1N957B	6,8	18,5	4,5	700	150	5,2
TC1N958B	7,5	16,5	5,5	700	75	5,7
TC1N959B	8,2	15	6,5	700	50	6,2
TC1N960B	9,1	14	7,5	700	25	6,9
TC1N961B	10	12,5	8,5	700	10	7,6
TC1N962B	11	11,5	9,5	700	5	8,4
TC1N963B	12	10,5	11,5	700	5	9,1
TC1N964B	13	9,5	13	700	5	9,9
TC1N965B	15	8,5	16	700	5	11,4
TC1N966B	16	7,8	17	700	5	12,2
TC1N967B	18	7	21	750	5	13,7
TC1N968B	20	6,2	25	750	5	15,2
TC1N969B	22	5,6	29	750	5	16,7
TC1N970B	24	5,2	33	750	5	18,2
TC1N971B	27	4,6	41	750	5	20,6
TC1N972B	30	4,2	49	1000	5	22,8
TC1N973B	33	3,8	58	1000	5	25,1
TC1N974B	36	3,4	70	1000	5	27,4
TC1N975B	39	3,2	80	1000	5	29,7
TC1N976B	43	3	93	1500	5	32,7
TC1N977B	47	2,7	105	1500	5	35,8
TC1N978B	51	2,5	125	1500	5	38,8
TC1N979B	56	2,2	150	2000	5	42,6

## Notes:

### 1. TOLERANCE AND VOLTAGE DESIGNATION

The type numbers listed have zener voltage as shown and have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ . Suffix A =  $\pm 10\%$ , C =  $\pm 2\%$  and D =  $\pm 1\%$ .

### 2. ZENER VOLTAGE ( $V_Z$ ) MEASUREMENT

The zener voltage ( $V_Z$ ) is tested under pulse conditions.

### 3. ZENER IMPEDANCE ( $Z_Z$ ) DERIVATION

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 ( $I_{ZT}$ ) is superimposed to  $I_{ZT}$ .

## SPECIFICATION

3/4/2020

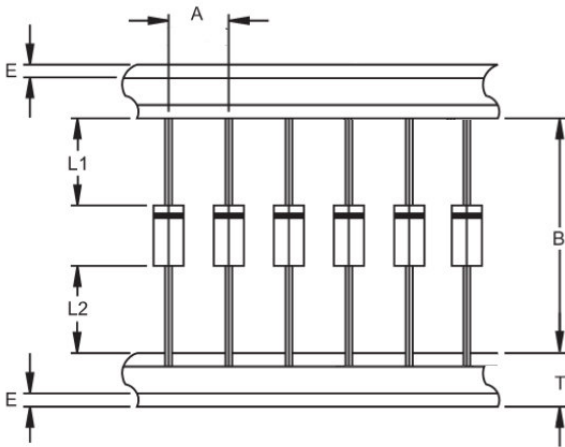
© FrelTec® GmbH

Please read cautions and warnings and important notes at the end of this document.

4/8

www.freltec.com

DO-35  
*Tape in box (paper tape)*

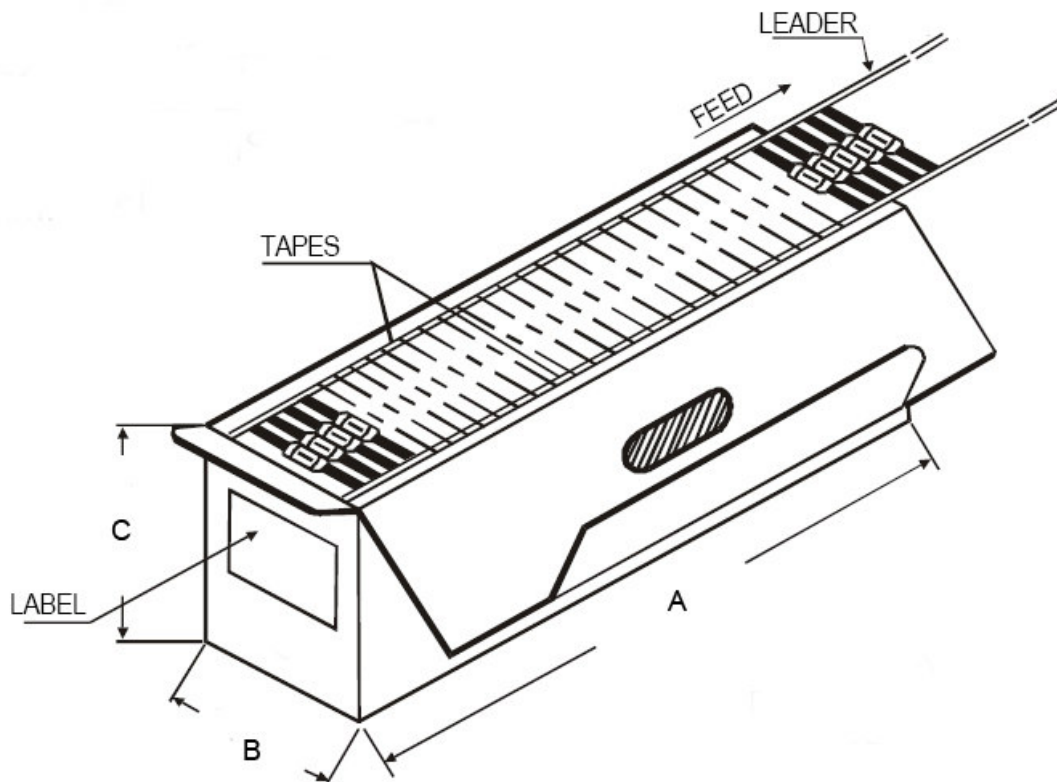


Taping Dimensions	A +/- 0,5mm	B +/- 1,5mm	T	E	L1-L2
DO-35	0,5mm	52,4mm	2,75~6,4	0,8max	±1,2

## DO-35

This axial-lead component's packaging requirements use in automatic testing and assembly equipment. And this standard practices for lead-tape packaging of axial-lead components meets the requirements of EIA Standard RS-296-D "Lead-taping of Components on Axial Lead Configuration for Automatic Insertion".

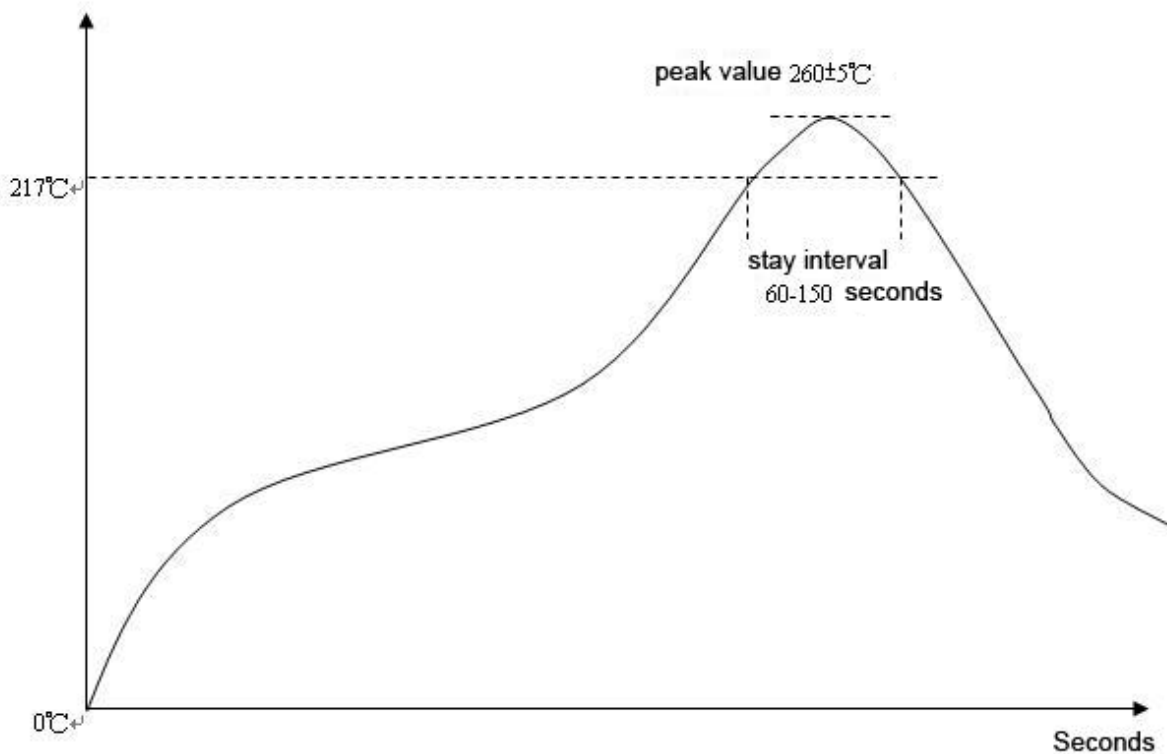
## Tape &amp; Ammo Outline



Packaging	Available Product Outlines	Dimension "A"	Dimension "B"	Dimension "C"	Quantity Box
52mm Horizontal Ammo Pack	DO-35	250mm	80mm	80mm	5K

## DO-35

### Lead Free Reflow Soldering Profile



FrelTec

#### Stock period

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of  $25^\circ\text{C} \pm 3^\circ\text{C}$  and a relative humidity less than 80%RH

3/4/2020

© FrelTec® GmbH

Please read cautions and warnings and important notes at the end of this document.

7/8

[www.freltec.com](http://www.freltec.com)

The following applies to all products named in this publication:

1. The information describes the type of component and shall not be considered as assured characteristics.
2. Terms of delivery and rights to change design reserved.
3. Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. Nevertheless, we explicitly point out that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. As a rule, FrelTec® is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a FrelTec® product with the properties described in the product specification is suitable for use in a particular customer application.
4. We also point out that in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
5. The warnings, cautions and product-specific notes must be observed.
6. In order to satisfy certain technical requirements, some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as "hazardous"). Useful information on this will be found in our Material Data Sheets. Should you have any more detailed questions, please contact our sales offices.
7. We constantly strive to improve our products. Consequently, the products described in this publication may change from time to time. The same is true for the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order. We also reserve the right to discontinue production and delivery of products. Consequently, we cannot guarantee that all products named in this publication will always be available.
8. Unless otherwise agreed in individual contracts, all orders are subject to the current version of the "General conditions for the supply of products and services of the electrical and electronics industry" published by the German Electrical and Electronics Industry Association (ZVEI), available at [www.freltec.com](http://www.freltec.com).
9. As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.
10. The trade name FrelTec® is a trademark registered or pending in Europe and in other countries.