

## Taping, Labeling, Storage, Packing, and Marking

### VISHAY SEMICONDUCTOR STANDARD BAR CODE LABELS

#### Standard bar code labels for finished goods

The standard bar code labels are product labels and used for identification of goods. The finished goods are packed in final packing area. The standard packing units are labeled with 2D bar code label (according the bar code standard for 2D label PDF 417) before transported as finished goods to warehouses. The labels are on each packing unit with Vishay Semiconductor GmbH specific data. The content of the label is show in the following table and Fig. 1.

For transceivers the following logos are used inside the bar code label which are shown in Fig. 3.

The following lead (Pb)-free categories (see Fig. 1 to Fig. 3) are meant to describe the lead (Pb)-free 2<sup>nd</sup> level interconnect terminal finish / material of components and / or the solder used in board assembly.

e1	SnAgCu (shall not be included in category 2)
e2	Sn alloys with no Bi or Zn excluding SnAgCu
e3	Sn
e4	Precious metal (e.g. Ag, Au, NiPd, NiPdAu) (no Sn)
e5	SnZn, SnZnx (no Bi)
e6	contains Bi
e7	low temperature solder ( $\leq 150$ °C) containing Indium (no Bi)
e0, e8, e9	symbol are unassigned

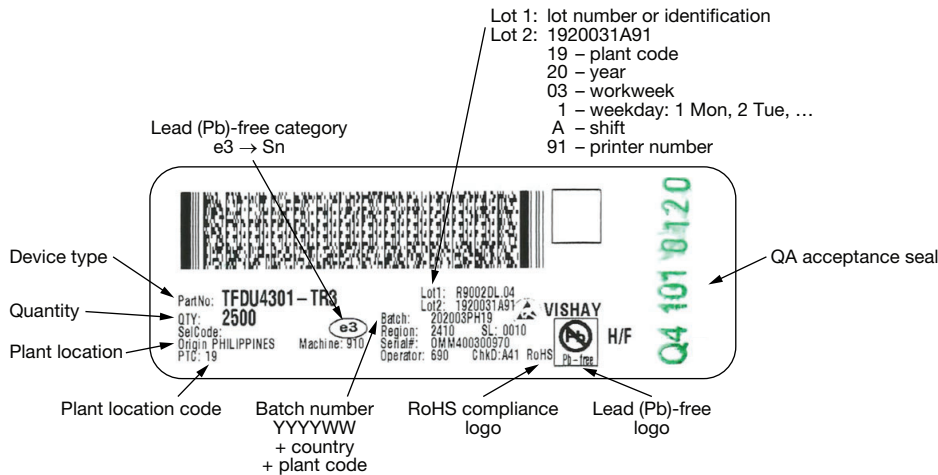


Fig. 1 - 2D Bar Code Label (according the bar code standard for 2D label PDF 417) for a Lead (Pb)-Free Device Made in Philippines, Detailed Description



Fig. 2 - 2D Bar Code Label for a Lead (Pb)-Free Device Made in Malaysia, Equivalent to That Shown in Fig. 1

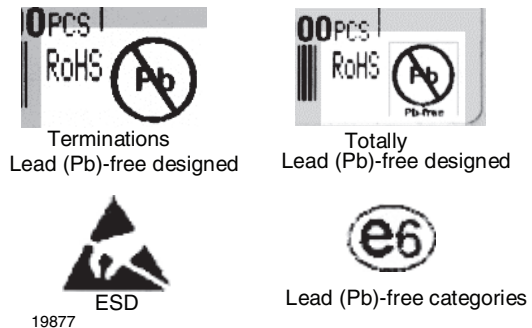


Fig. 3 - Logos Inside the Label

## MOISTURE PROOF PACKING

The reel with the taped components is packed in a moisture proof aluminum bag to protect the devices from absorbing moisture during transportation and storage. This bag finally is packed in a cardboard box. On the reel as well as on the bag and the box are labels, which are described in the following (see Fig. 4). This is an example and little variations may be between different plants.

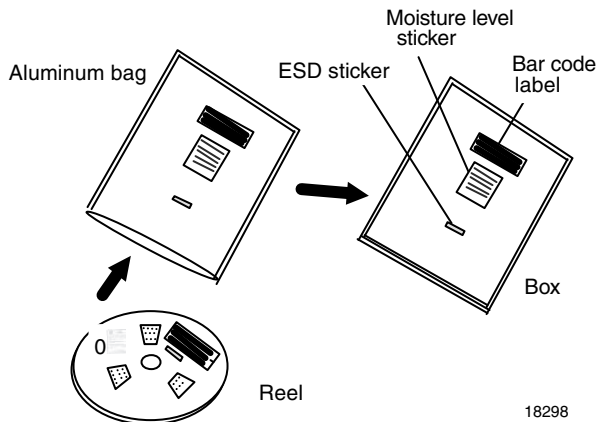


Fig. 4 - Moisture Proof Packing

Inside the aluminum bag is with the reel a desiccant bag and a humidity indicator (Fig. 5).

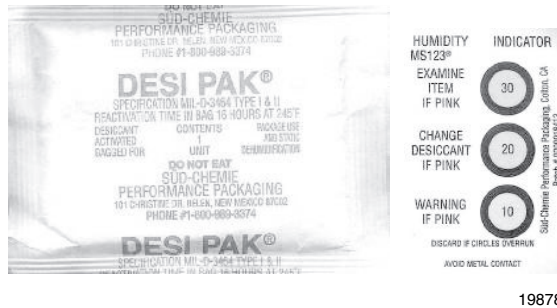


Fig. 5 - Desiccant Bag (example, left) and Humidity Indicator Card

On the reel are the bar code product label and taping label (Fig. 7) and a yellow ESD sticker (Fig. 6).



Fig. 6 - ESD Sticker

Lead (Pb)-free information is part of the bar code label, but when it is missing there a "lead (Pb)-free"-label (Fig. 8) may be attached. In addition the "Moisture-Sensitive Identification Label (MSID)" is applied (Fig. 9).



Fig. 7 - Product (Top) and Taping Label From Philippines



Fig. 8 - Lead (Pb)-free Logo



Fig. 9 - Moisture-Sensitive Identification Label (MSID)

On the bag the same stickers as on the reel will be shown. In addition there the moisture-sensitivity caution label as shown in Fig. 10 describes the storage and drying procedures.

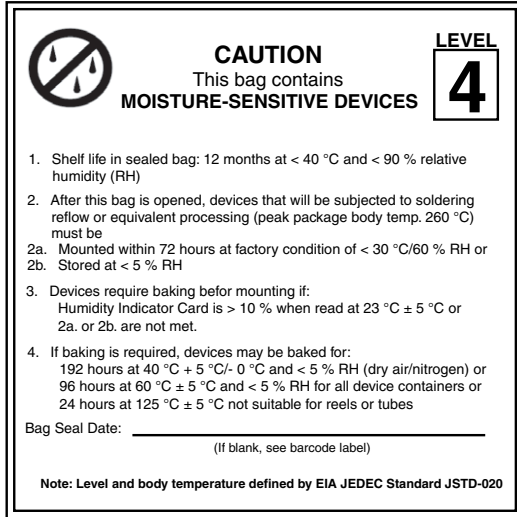


Fig. 10 - EIA JEDEC® Standard JSTD-020 Level 4 Label is Included on all Dry Bags

In the following the two different reel sizes are shown with the labeling of Philippines and Malaysia (Fig. 11 to Fig. 14).



Fig. 12 - 180 mm Reel With Labels (Malaysia), no Labels on the Rear, Lead (Pb)-Free Marking is on the Bar Code



Fig. 13 - 330 mm Reel With Labels (Malaysia), no Labels on the Rear, Lead (Pb)-Free Marking is on the Bar Code



Fig. 11 - 180 mm Reel With Labels (Philippines), no Labels on the Rear, Lead (Pb)-free Marking is on the Bar Code



Fig. 14 - 330 mm Reel With Labels (Philippines), no Labels on the Rear, Lead (Pb)-Free Information is on the Bar Code Label

## FINAL PACKING

The sealed reel is packed into a cardboard box, which is (334 x 335 x 40) mm<sup>3</sup> in size. A secondary cardboard box is used for shipping purposes, with the following sizes, slightly different for different production locations, see the following tables.



<b>FINAL PACKING</b>	
<b>SECONDARY BOXES MALAYSIA, LOCATION CODE 68</b>	
SIZE, LENGTH x WIDTH x HEIGHT mm x mm x mm	QUANTITY OF BOXES
360 x 360 x 45	1
360 x 360 x 120	2
360 x 360 x 200	5
360 x 360 x 340	8
675 x 355 x 375	16
620 x 530 x 480	26
625 x 525 x 640	30
1000 x 600 x 580	60
<b>PHILIPPINES, LOCATION CODE 19</b>	
SIZE, LENGTH x WIDTH x HEIGHT mm x mm x mm	QUANTITY OF BOXES
360 x 360 x 130	2
380 x 380 x 260	5
370 x 360 x 620	11
730 x 380 x 570	20

On the boxes the same labels as on the bag will be found.

### RECOMMENDED METHOD OF STORAGE

Dry box storage is recommended as soon as the dry bag has been opened to prevent moisture absorption.

The following conditions should be observed, if dry boxes are not available:

- Storage temperature 10 °C to 30 °C
- Storage humidity ≤ 60 % RH max.

After more than 72 h under these conditions moisture content will be too high for reflow soldering. In case of moisture absorption, the devices will recover to the former condition by drying under the conditions given in the label on the aluminum bag as shown in Fig. 5. Such an EIA JEDEC standard JSTD-020 level 4 label is included on all dry bags (see Fig.10).

### ESD PRECAUTION

Proper storage and handling procedures should be followed to prevent ESD damage to the devices especially when these are removed from the antistatic shielding bag. "Electro-static sensitive devices"-warning labels (Fig. 6) are affixed on the packaging.

### ORDER INFORMATION, RELATED PACKING UNITS, TAPE AND REEL SIZE, AND LABELING

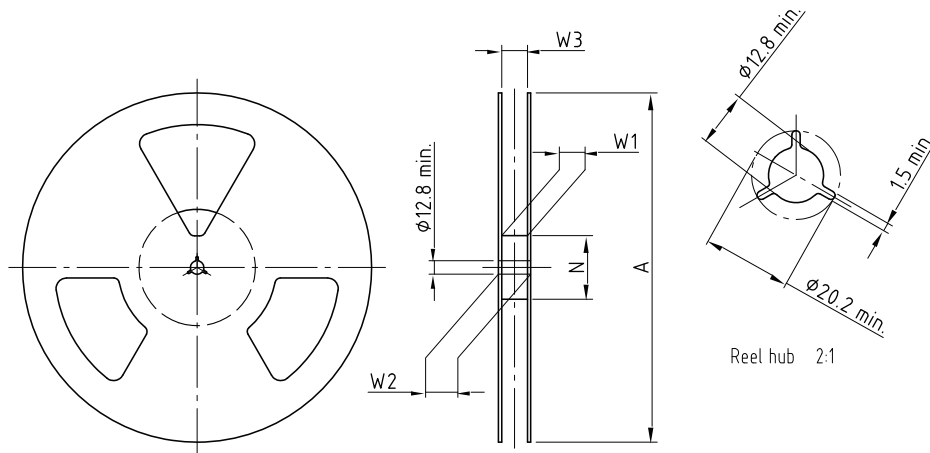
In this document the packing and labeling information for IR transceivers is compiled.

<b>TRANSCEIVER TAPE DRAWING AND REEL SIZE REFERENCE ACCORDING TO TYPE ORDER TEXT</b>				
PART <sup>(1)</sup>	DESCRIPTION	QUANTITY/REEL	TAPE	REEL
	ORIENTATION IN TAPE FOR MOUNTING	PIECED	DRAWING-NO.	REEL NO IN REEL TABLE
TFBRx650-TR1	Side view	1000	16	1
TFBRx650-TR3	Side view	2500	16	2
TFBRx650-TT3	Top view	2500	17	2
TFBSx650-TR1	Side view	1000	16	1
TFBSx650-TR3	Side view	2500	16	2
TFBSx650-TT3	Top view	2500	17	2
TFBSx652-TR1	Side view	1000	16	1
TFBSx652-TR3	Side view	2500	16	2
TFBSx652-TT1	Top view	1000	17	1
TFBSx711-TR1	Side view	1000	18	1
TFBSx711-TR3	Side view	2500	18	2
TFBSx711-TT1	Top view	1000	19	1
TFDUx101-TR3	Side view	1000	22	3
TFDUx101-TT3	Top view	1000	23	3
TFDUx301-TR1	Side view	750	20	1
TFDUx301-TR3	Side view	2500	20	2
TFDUx301-TT1	Top view	750	21	1
TFDUx301-TT3	Top view	2500	21	2

#### Note

(1) "x" = 4 or 9

## SHAPE OF REEL AND DIMENSIONS in millimeters



Drawing-No.: 9.800-5090.01-4  
Issue: 1; 29.11.05  
14017

Form of the leave open of the wheel is supplier specific.

Dimension acc. to IEC EN 60 286-3

Reel hub 2:1  
Technical drawings according to DIN specifications

TAPE	TAPE WIDTH	A max.	N	W <sub>1</sub> min.	W <sub>2</sub> max.	W <sub>3</sub> min.	W <sub>3</sub> max.
REEL	mm	mm	mm	mm	mm	mm	mm
#1	16	180	60	16.4	22.4	15.9	19.4
#2	16	330	50	16.4	22.4	15.9	19.4
#3	24	330	60	24.4	30.4	23.9	27.4

### Note

- (According EN 60286-3: 1998)

## LEADER AND TRAILER DIMENSIONS in millimeter

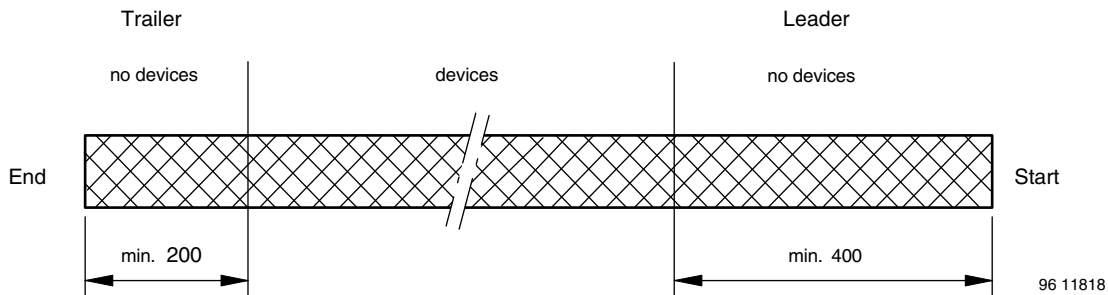


Fig. 15 - Leader and Trailer

## COVER TAPE PEEL STRENGTH

According to IEC 286

Peel Strength: 0.1 N to 1.3 N

(300 ± 10 %) mm/min

165° to 180° peel angle

**TAPE DIMENSIONS** in millimeters

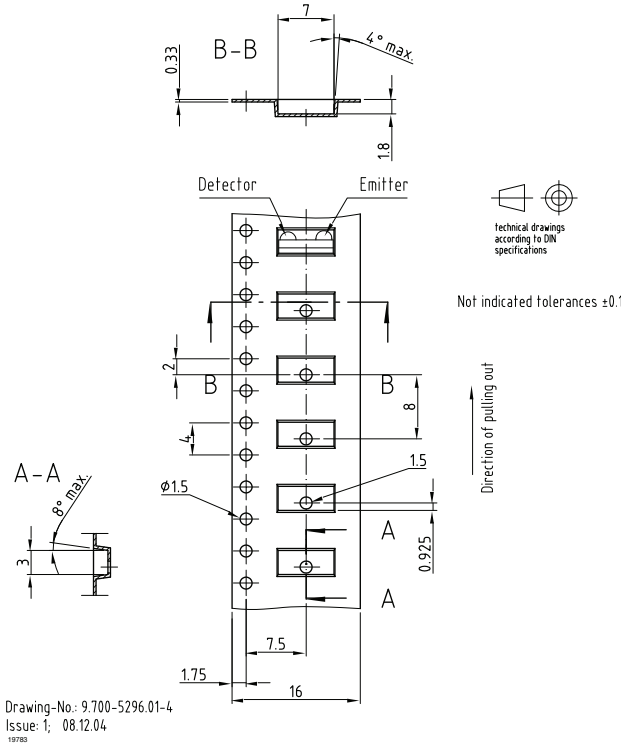


Fig. 16 - Tape for 1.6 mm Package Side View Oriented (TFBxx6xxTRx)

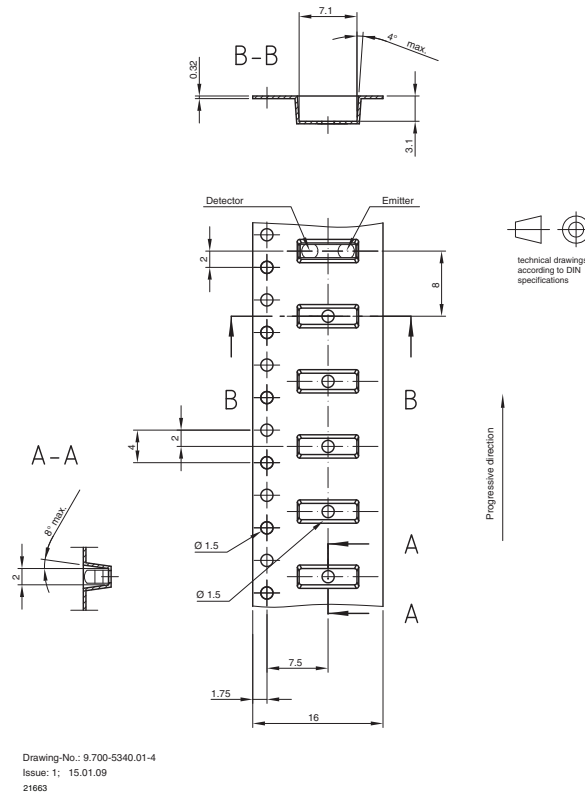
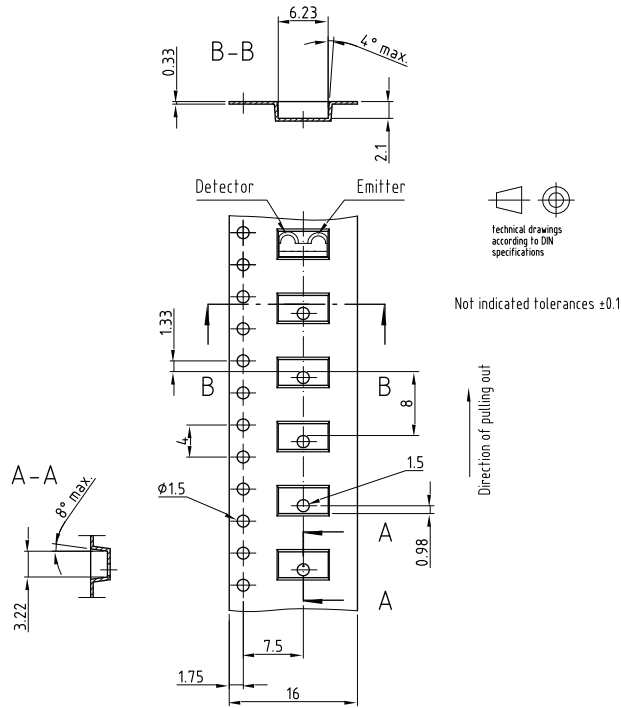
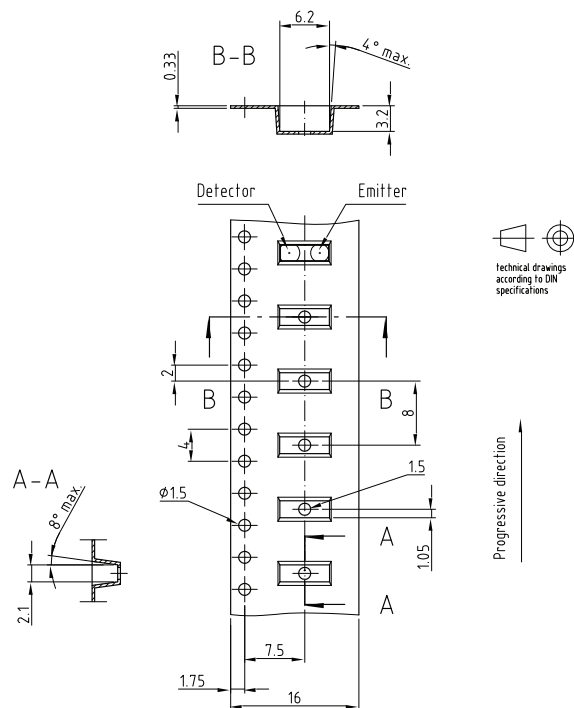


Fig. 17 - Tape for 1.6 mm Package Top View Oriented (TFBxx6xxTTx)



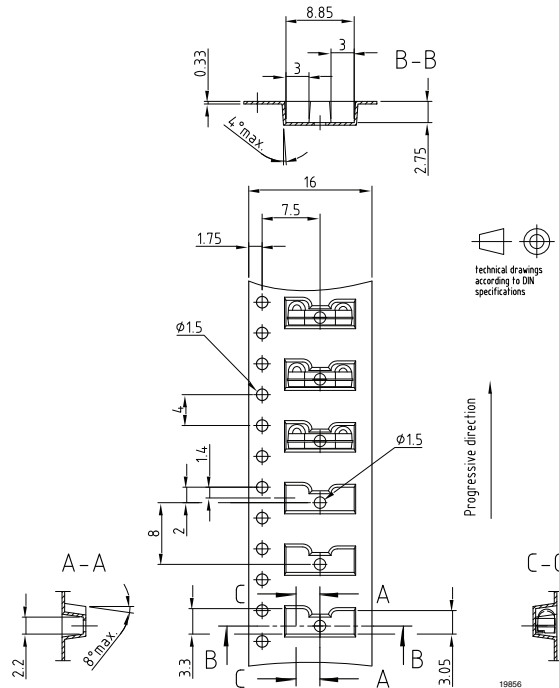
Drawing-No.: 9.700-5294.01-4  
Issue: 1; 08.12.04  
19613

Fig. 18 - Tape for 1.9 mm Package Side View Oriented (TFBSx711TRx)



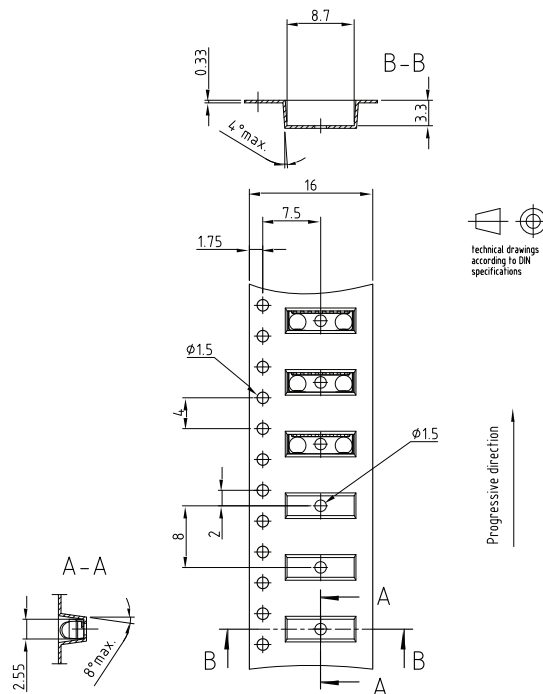
Drawing-No.: 9.700-5295.01-4  
Issue: 1; 08.12.04  
20416

Fig. 19 - Tape for 1.9 mm Package Top View Oriented (TFBSx711TTx)



Drawing-No.: 9.700-5279.01-4  
Issue: 1; 08.12.04  
19856

Fig. 20 - Tape for 2.5 mm Package Side View Oriented (TFDUx301TRx)



Drawing-No.: 9.700-5280.01-4  
Issue: 1; 03.11.03  
19855

Fig. 21 - Tape for 2.5 mm Package Top View Oriented (TFDUx301TTx)



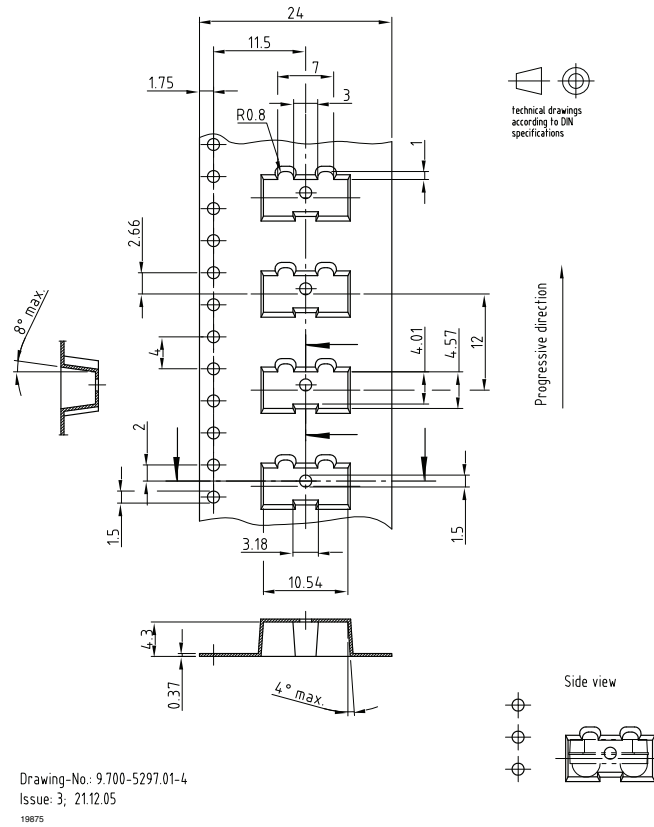


Fig. 22 - Tape for 4.0 mm Package Side View Oriented (TFDUx101TRx)

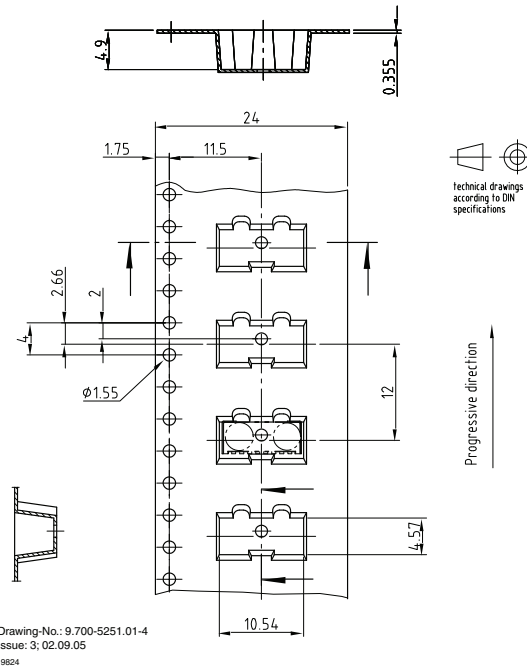
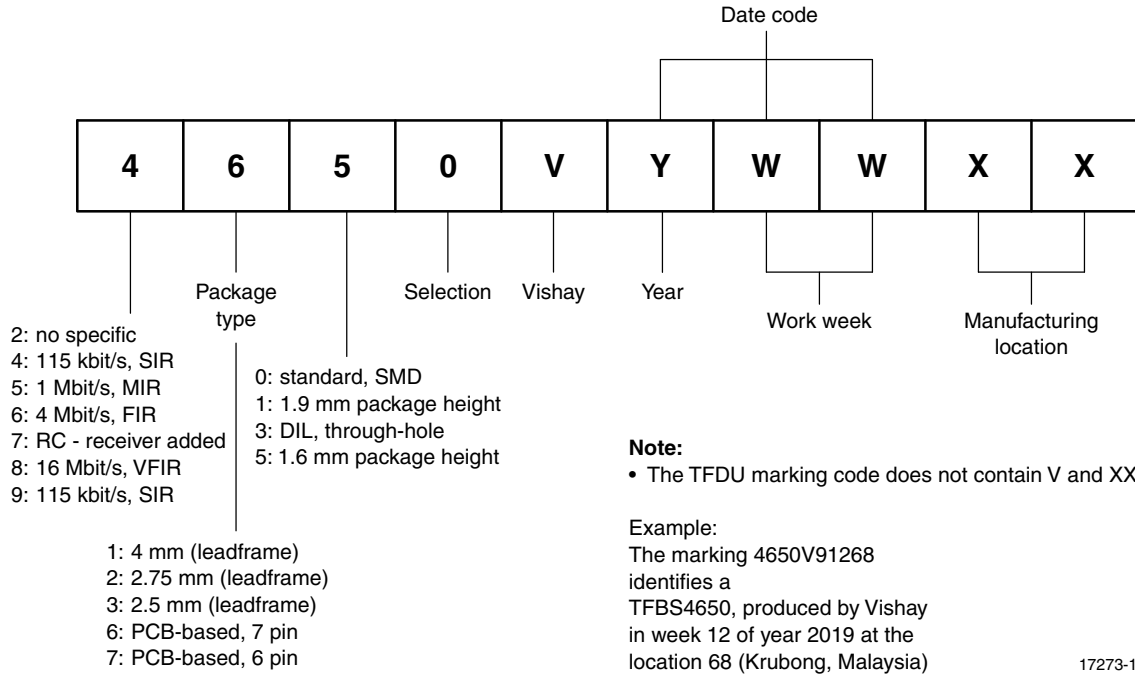


Fig. 23 - Tape for 4.0 mm Package Top View Oriented (TFDUx101TTx)



## MARKING OF TRANSCEIVER MODULES



17273-1