



Taping, Labeling, Storage, Packing and Marking

Vishay Semiconductor Standard Bar Code Labels

Standard bar code labels for finished goods

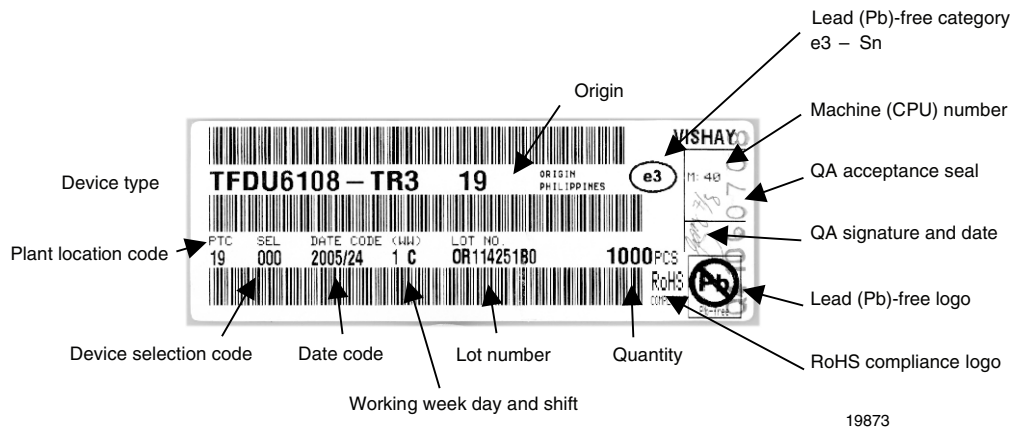
The standard bar code labels are product labels and used for identification of goods. The finished goods are packed in final packing area. The standard packing units are labeled with standard bar code (3-of-9 bar code (code 39) conforming MIL-STD-1189) before transported as finished goods to warehouses. 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 figure 1.

In future a change from 1D to 2D bar codes can be expected. That one will look like as shown in figure 2.

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

The following lead (Pb)-free categories (see figure 1 to figure 3) are meant to describe the lead (Pb)-free 2nd 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 ($\leq 150\text{ }^{\circ}\text{C}$) containing Indium (no Bi)
e0, e8, e9	symbol are unassigned



Remark: Multi - Date Codes would be marked in the QA field of this label on top of the lead

Figure 1. Bar Code Label, Detailed Description

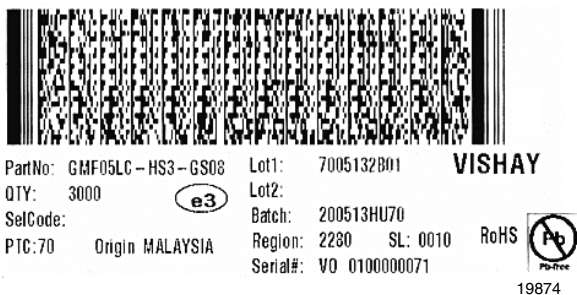


Figure 2. 2D Bar Code Label (according the Bar Code Standard for 2D Label PDF 417) for a Lead (Pb)-free Device, Equivalent to that Shown in Figure 11.

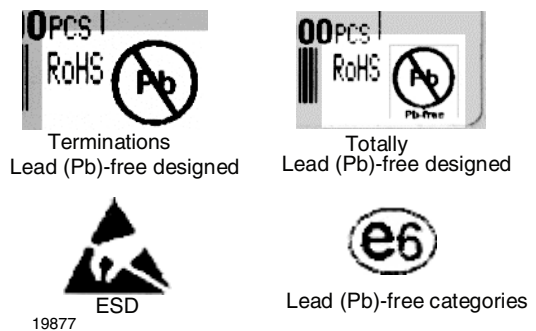


Figure 3. Logos Inside the Label

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 figure 4). This is an example and little variations may be between different plants.

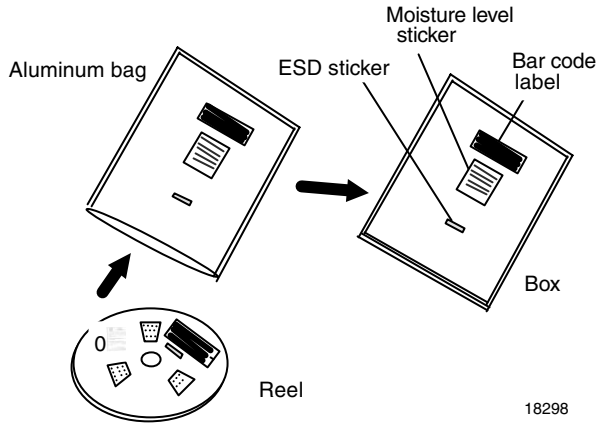
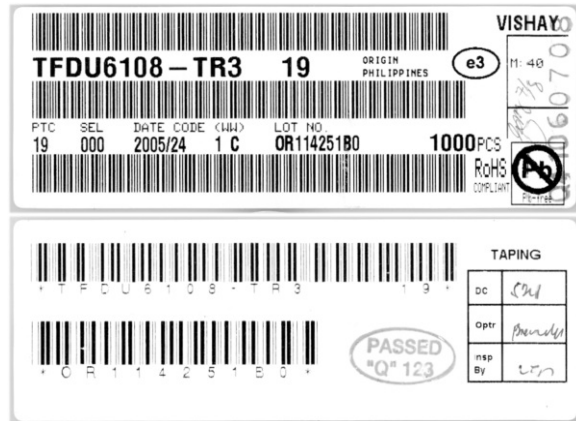


Figure 4. Moisture Proof Packing

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



19880

Figure 7. Product (Top) and Taping Label

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



19878

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

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



19879

Figure 6. ESD Sticker



19881

Figure 8. Lead (Pb)-free Logo



19882

Figure 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 figure 10 describes the storage and drying procedures.

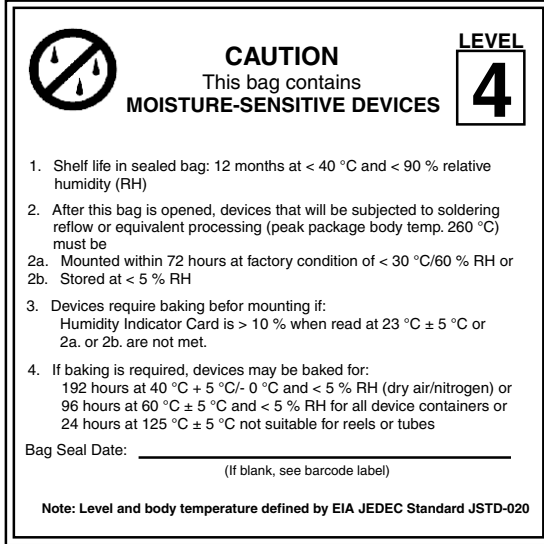


Figure 10. EIA JEDEC Standard JSTD-020 Level 4 Label is included on all Dry Bags

In the following two reels of different size are shown with the labeling (figure 11 and figure 12).



Figure 11. 180-mm Reel with Labels. No Labels on the rear. Lead (Pb)-free Marking is not on the Bar Code; here an additional Lead (Pb)-free Sticker is applied.



Figure 12. 330-mm Reel with Labels. 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 mm³ 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.

Table 2. Secondary boxes Malaysia, location code 68

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

Philippines, location code 19

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 figure 5. Such an EIA JEDEC standard JSTD-020 level 4 label is included on all dry bags (see figure 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 (figure 6) are affixed on the packaging.

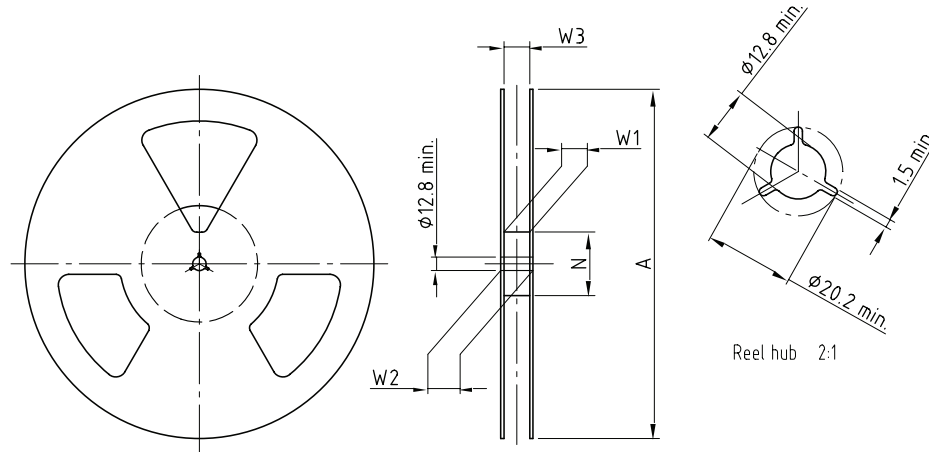
Order Information, Related Packing Units, Tape and Reel Size and Labeling

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

Part	Description	Quantity/Reel	Tape	Reel
	Orientation in tape for mounting	Pcs	Drawing-no.	Reel no in reel table
TFBS2711X01-TR1	Side view	1000	16	1
TFBS2711X01-TR3	Side view	2500	16	2
TFBS4601-TR1	Side view	1000	14	1
TFBS4601-TR3	Side view	2500	14	2
TFBS4650-TR1	Side view	1000	14	1
TFBS4650-TR3	Side view	2500	14	2
TFBS4650-TR4	Side view	6000	15	2
TFBS4650-TT3	Top view	2500	26	2
TFBS4652-TR1	Side view	1000	14	2
TFBS4652-TR3	Side view	2500	14	2
TFBS4656-TR1	Side view	1000	14	2
TFBS4656-TR3	Side view	2500	14	2
TFBS4701-TR1	Side view	1000	16	1
TFBS4701-TR3	Side view	2500	16	2
TFBS4710-TR1	Side view	1000	20	2
TFBS4711-TT1	Top view	1000	17	1
TFBS4711-TR1	Side view	1000	16	1
TFBS4711-TR3	Side view	2500	16	2
TFBS5700-TR3	Side view	2500	14	2
TFBS6626-TR1	Side view	1000	14	2
TFBS6626-TR3	Side view	2500	14	2
TFBS6711-TR1	Side view	1000	16	1
TFBS6711-TR3	Side view	2500	16	2
TFBS6711-TT1	Top view	1000	17	1
TFBS6711-TT3	Top view	2500	17	2
TFBU4101-TR3	Side view	1000	22	3
TFBU4101-TT3	Top view	1000	23	3
TFDU4300-TR1	Side view	750	18	1
TFDU2201-TR1	Side view	750	21	1
TFDU2201-TR3	Side view	2250	21	2
TFDU4300-TR3	Side view	2500	18	2
TFDU4300-TT1	Top view	750	19	1
TFDU4300-TT3	Top view	2500	19	2
TFDU6300-TR3	Side view	2500	18	2
TFDU6300-TT3	Top view	2500	19	2
TFDU6301-TR3	Side view	2500	18	2
TFDU6301-TT3	Top view	2500	19	2
TFDU6103-TR3	Side view	1000	22	3
TFDU6103-TT3	Top view	1000	23	3
TFDU6126-TR3	Side view	1000	22	3
TFDU6126-TT3	Top view	1000	23	3
TFDU8108-TR3	Side view	1000	22	3
TFDU8108-TT3	Top view	1000	23	3
TOIM4232-TR3	Top view	1500	24	2
TOIM5232-TR3	Top view	6000	25	4

Table 1. Transceiver tape drawing and reel size reference according to type order text

Shape of Reel and Dimensions in mm



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

Technical drawings according to DIN specifications

Tape	Tape Width	A max.	N	W_1 min.	W_2 max.	W_3 min.	W_3 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
#4	12	330	50	12.4	22.4	11.9	15.4

(According EN 60286-3: 1998)

Leader and Trailer Dimensions in mm

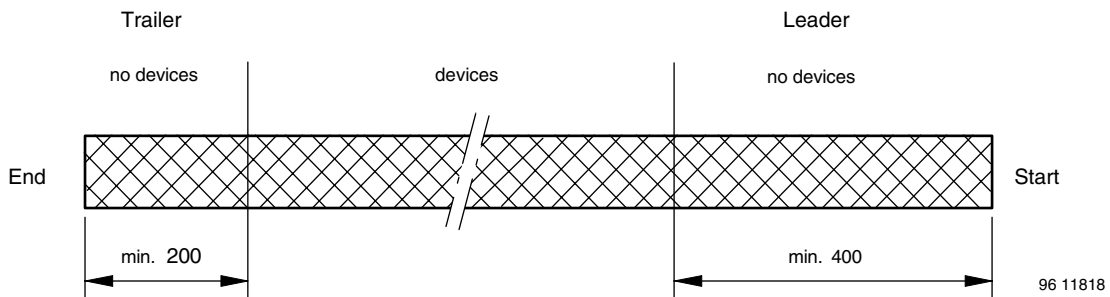


Figure 13. Leader and Trailer

Cover Tape Peel Strength

According to IEC 286

Peel Strength: 0.1 N to 1.3 N

($300 \pm 10 \%$) mm/min

165° to 180° peel angle

Tape Dimensions in mm

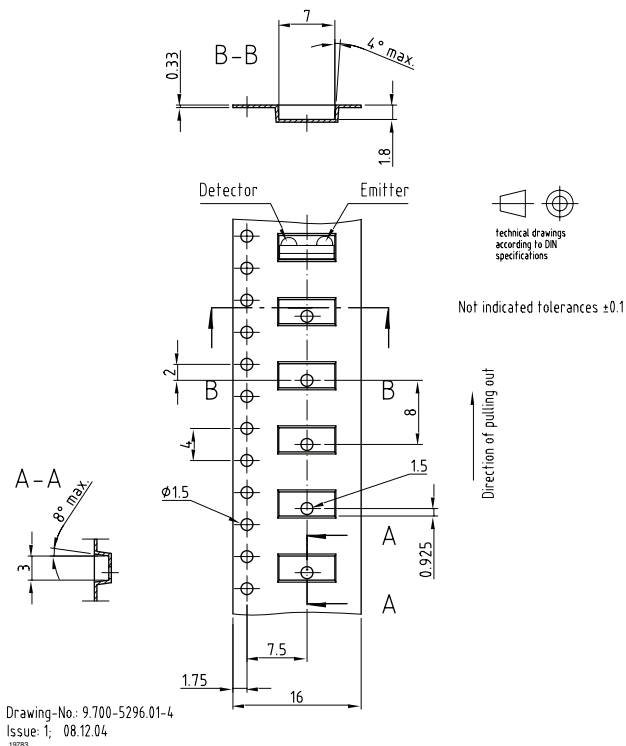


Figure 14. Tape for 1.6 - mm Package Side View Oriented

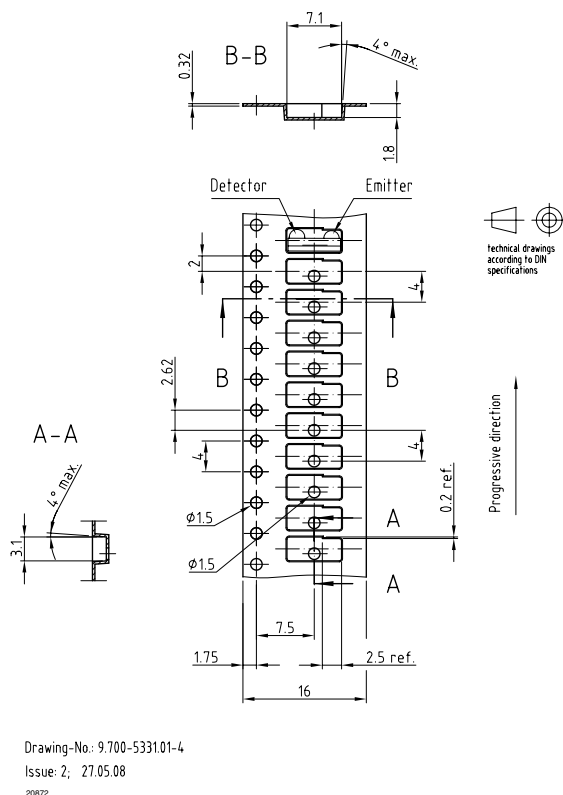
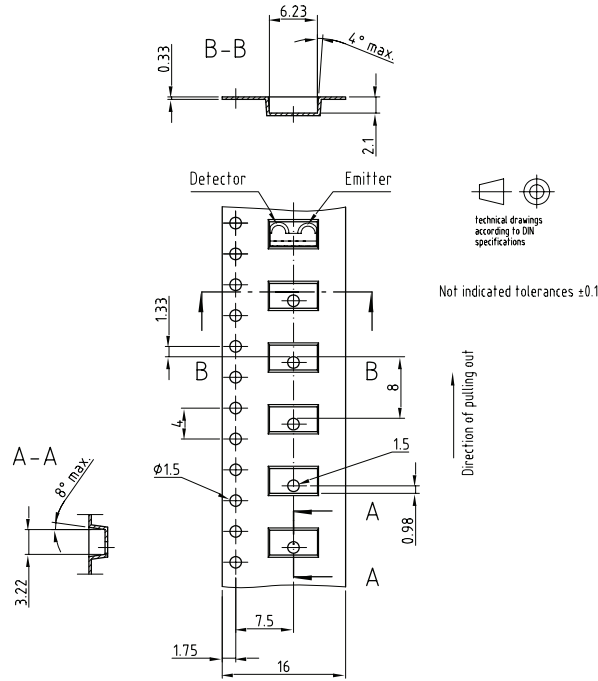
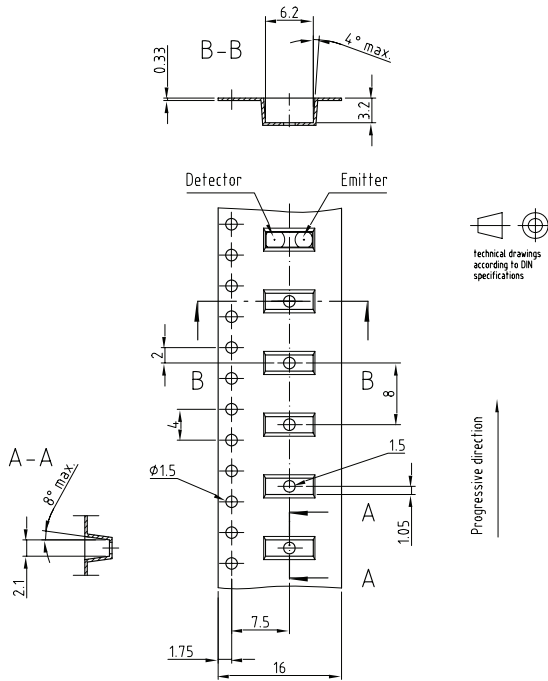


Figure 15. Tape for 1.6 - mm Package Side View Oriented for TR-4 Version



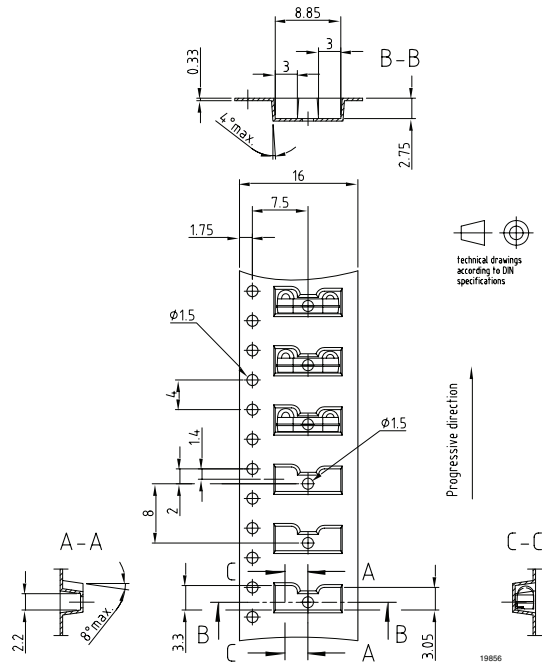
Drawing-No.: 9.700-5294.01-4
 Issue: 1, 08.12.04
 19813

Figure 16. Tape for 1.9 - mm Package Side View Oriented



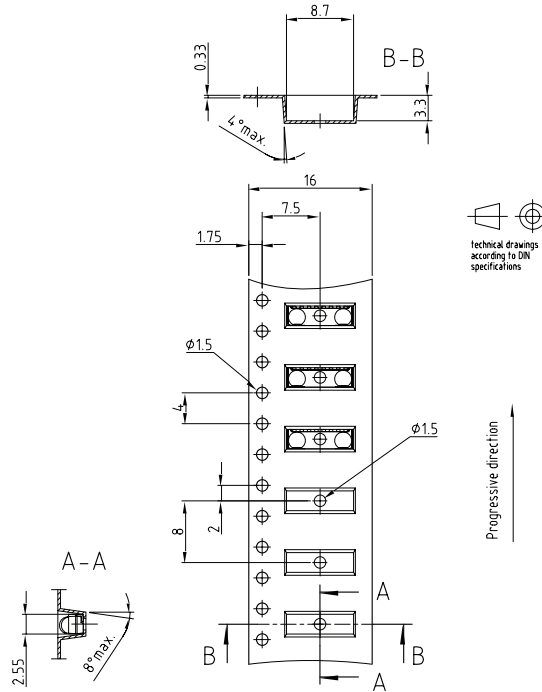
Drawing-No.: 9.700-5295.01-4
 Issue: 1, 08.12.04
 20416

Figure 17. Tape for 1.9 - mm Package Top View Oriented



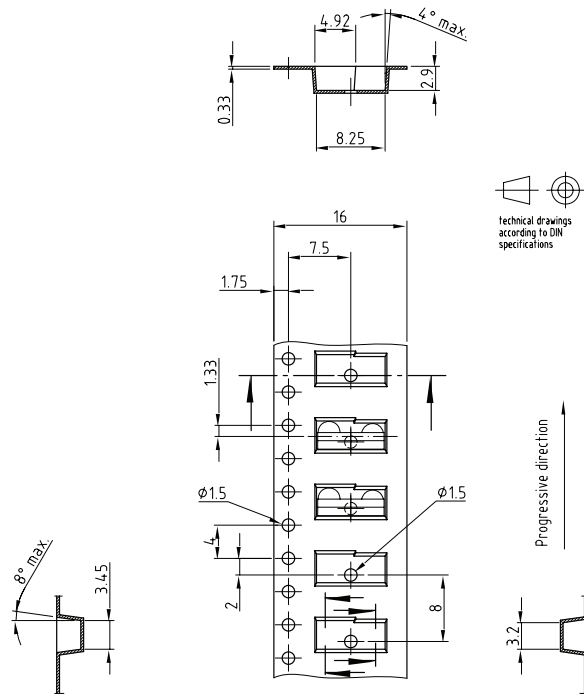
Drawing-No.: 9.700-5279.01-4
Issue: 1; 08.12.04
19856

Figure 18. Tape for 2.5 - mm Package Side View Oriented



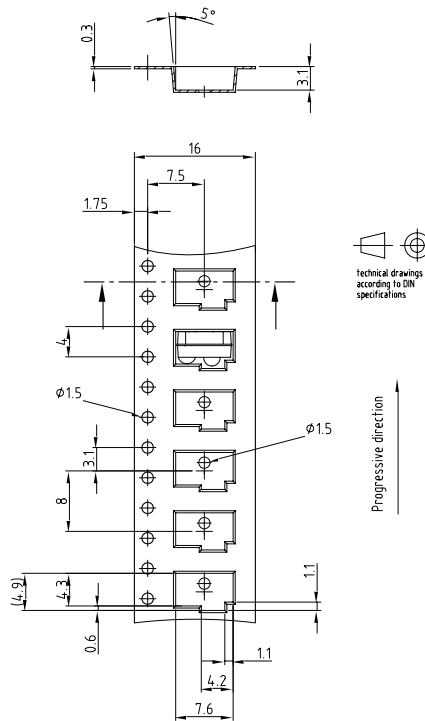
Drawing-No.: 9.700-5280.01-4
Issue: 1; 03.11.03
19855

Figure 19. Tape for 2.5 - mm Package Top View Oriented



Drawing-No.: 9.700-5299.01-4
 Issue: 1; 18.08.05
 19805

Figure 20. Tape for 2.74 - mm Package Side View Oriented



Drawing-No.: 9.700-5227.01-4
 Issue: 3; 03.09.99
 19870

Figure 21. Tape for 2.75 - mm Package Side View Oriented

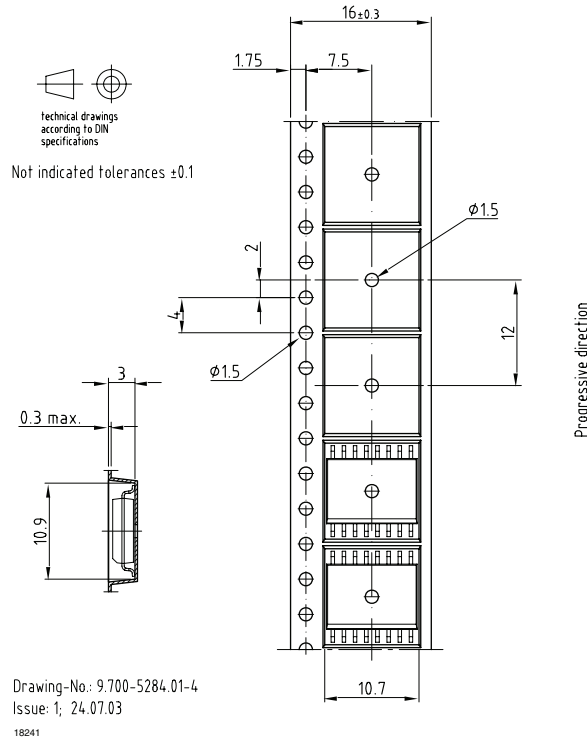


Figure 24. Tape for SO - 16 Package Top View Oriented

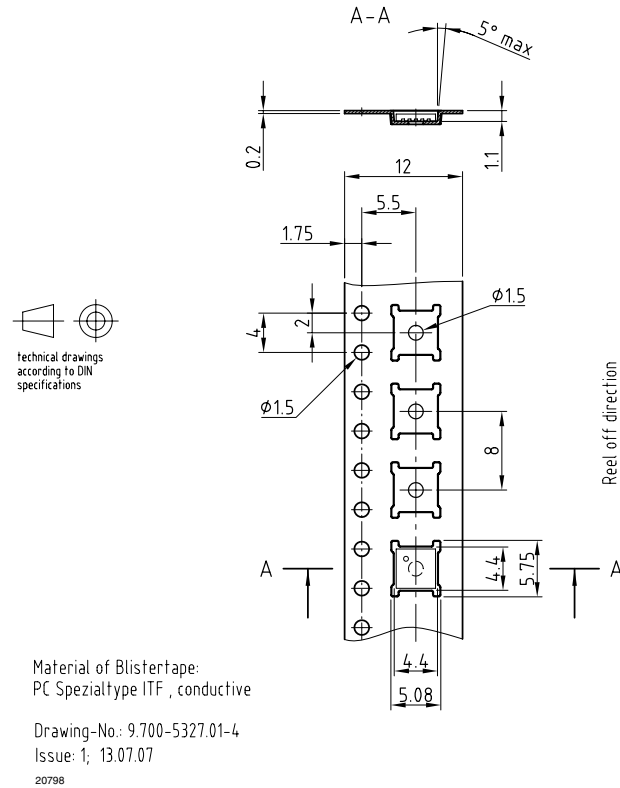


Figure 25. Tape for QFN20-4, 4 mm x 4 mm

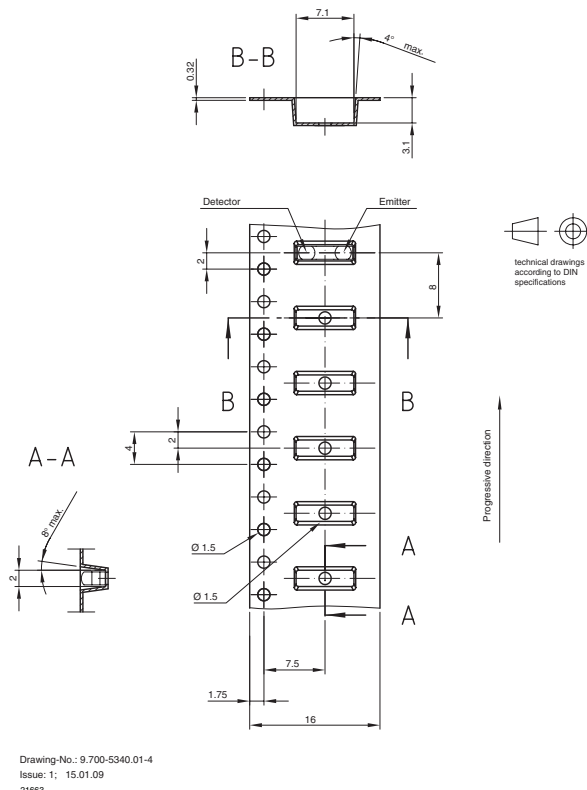
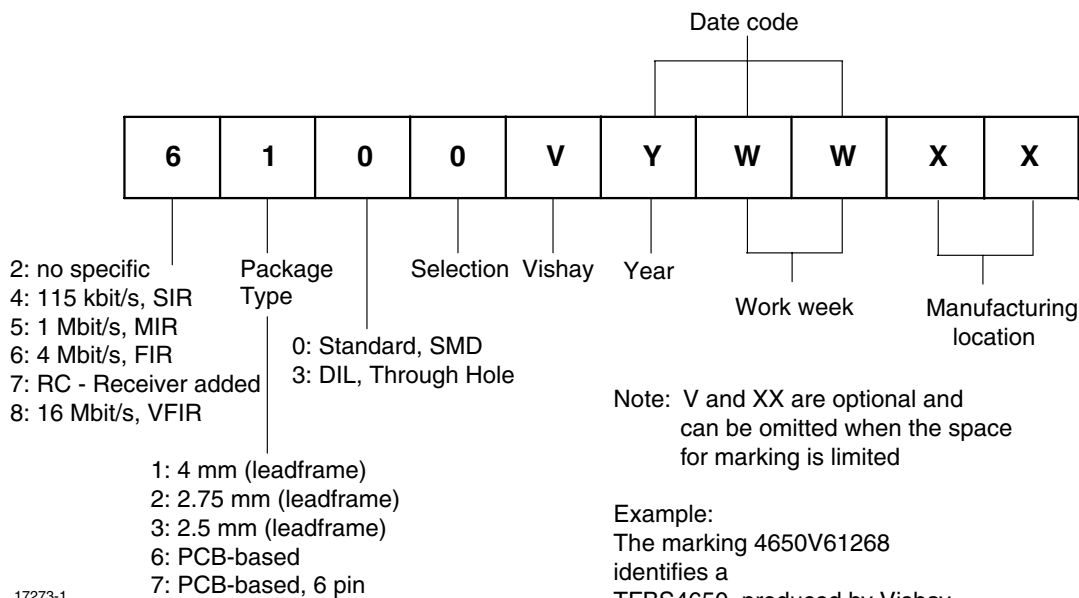


Figure 26. Tape for 1.6 - mm Package Top View Oriented

Marking of Transceiver Modules



17273-1