Tape and Reel Standards for Surface-Mount IR Receiver Modules

Vishay Semiconductor surface-mount IR receivers are packaged on tape and reel. The following specification is based on IEC publication 286, which takes the industrial requirements for automatic insertion into account.

Absolute maximum ratings, mechanical dimensions, optical and electrical characteristics for taped devices are identical to the basic catalog types and can be found in the specifications for untaped devices.

PACKAGING
The tapes of components are available on reels. Each reel is marked with labels which contain the following information:
- Vishay
- Type
- Group
- Tape code, normally part of type name
- Production code
- Quantity

MISSING COMPONENTS
Up to 3 consecutive components may be missing if the gap is followed by at least 6 components. A maximum of 0.5% of the components per reel quantity may be missing. At least 5 empty positions are present at the start and the end of the tape to enable tape insertion.

Tensile strength of the tape: > 15 N

NUMBER OF COMPONENTS
A. Panhead: quantity per reel:
   TT, top view package, 1190 pcs
   TR, side view package, 1120 pcs
B. Heimdall: quantity per reel:
   TT, top view package, 2200 pcs
   TR, side view package, 2300 pcs
C. Heimdall without lens: quantity per reel:
   WTT, top view package, 2200 pcs
   WTR, side view package, 2300 pcs
D. Belobog: quantity per reel:
   TT1, top view package, 1800 pcs
   TT2, top view package, 7000 pcs
E. Belobog with shield: quantity per reel:
   TT1, top view package, 1500 pcs
   TT2, top view package, 5000 pcs
F. Minimold DF1P: quantity per reel:
   DF1P, 1100 pcs
G. TVCastSMD TR1: quantity per reel:
   TR1, side view package, 2000 pcs

ORDER DESIGNATION
The type designation of the device is extended by TT or TT1 for top view or TR for side view.

Example:
- TSOP6238TR (reel packing)
- TSOP75238TR (reel packing)
- TSOP75338WTT (reel packing)
- TSOP57438TT1 (reel packing)
- TSOP57238HTT1 (reel packing)
- TSOP39438TR1 (reel packing)
REEL DIMENSIONS FOR PANHEAD, HEIMDALL, AND TVCAST SMD TR in millimeters

Note
- The body structure of the reel can vary
TAPING VERSION TSOP..TT (TOP VIEW) DIMENSIONS in millimeters

A. Panhead (TSOP36...TT, TSSP....TT, TSOP6...TT, TSOP16...TT, TSOP96...TT)

Drawing-No.: 9.700-5259.01-4
Issue: 1; 05.09.01
16584
TAPING VERSION TSOP..TT (TOP VIEW) DIMENSIONS in millimeters

B. Heimdall (TSOP75...TT, TSOP77...TT, TSSP77...TT, TSOP15...TT, TSOP95...TT)

Drawing-No.: 9.700-5338.01-4
Issue: 4; 12.06.13

technical drawings according to DIN specifications
TAPING VERSION TSOP..TT (TOP VIEW) DIMENSIONS in millimeters

C. Heimdall without lens (TSOP75...WTT, TSOP77...WTT, TSSP77...WTT, TSOP15...WTT, TSOP95...WTT)

Drawing-No.: 9.700-5341.01-4
Issue: 3; 06.10.15

technical drawings according to DIN specifications
TAPING VERSION TSOP..TT1, TSOP..TT2 (TOP VIEW) DIMENSIONS in millimeters

D. Belobog (TSOP37...TT1, TSOP37...TT2, TSOP57...TT1, TSOP57...TT2, TSOP17...TT1, TSOP17...TT2, TSOP97...TT1, TSOP97...TT2)

Leader and trailer tape:
- Empty trailer 200 mm min.
- Empty leader 400 mm min.

Direction of pulling out
- Unreel direction
- Parts mounted
- Empty leader 400 mm min.
- 100 mm min. with cover tape

Tape and reel dimensions:
- Reel size "Y"
  - TT1 Ø 180 ± 2 = 1800 pcs.
  - TT2 Ø 330 ± 2 = 7000 pcs.
- Ø 21 ± 0.8
- Ø 13 ± 0.2
- Label posted here
- Direction of pulling out

Technical drawings according to DIN specifications

Drawing-No.: 9.700-5347.01-4
Issue: 1; 14.11.11

Not indicated tolerances ± 0.1
Taping Version TSOP..TT1, TSOP..TT2 (Top View) Dimensions in millimeters

E. Belobog with shield (TSOP37...HTT1, TSOP37...HTT2, TSOP57...HTT1, TSOP57...HTT2, TSOP17...HTT1, TSOP17...HTT2, TSOP97...HTT1, TSOP97...HTT2)

Tape and Reel dimensions:

Reel size "Y"

GS 08  Ø 180 ± 2 = 1500 pcs.
GS 18  Ø 330 ± 2 = 5000 pcs.

Unreel direction

Ø 13 ± 0.2

Label posted here

Ø 21 ± 0.8

Parts mounted

Empty leader 400 mm min.

100 mm min. with cover tape

Leader and trailer tape:

Empty trailer 200 mm min.

Direction of pulling out

Technical drawings according to DIN specifications

X 2 : 1

Reel dimensions and tape

Drawing-No.: 9.700-5380.01-4
Issue: 1; 28.10.13
Taping Version TSOP..DF1P (Side View) Dimensions in millimeters

F. Minimold DF1P (TSOP33...DF1P, TSOP53...DF1P, TSOP13...DF1P, TSOP93...DF1P)

Form of the leave open of the wheel is supplier specific.
Dimensions according to IEC EN 60 286-3
Tape width: 24
Taping Version TSOP..TR (Side View) Dimensions in millimeters

G. TVCastSMD TR1 (TSOP59...TR1, TSOP39...TR1, TSOP19...TR1, TSOP99...TR1)

Drawing-No.: GO-100220.10_Z
Issue B: 08.02.17
TAPING VERSION TSOP..TR (SIDE VIEW) DIMENSIONS in millimeters

A. Panhead (TSOP36...TR, TSSP6...TR, TSOP6...TR, TSOP16...TR, TSOP96...TR)

Drawing-No.: 9700-5260 01-4
Issue: 2; 25.09.01

16585
Taping Version TSOP..TR (Side View) Dimensions in millimeters

B. Heimdall (TSSP7...., TSOP75...TR, TSOP77...TR, TSSP7....TR, TSOP15...TR, TSOP95...TR)

Drawing-No.: 9.700-5337.01-4
Issue: 2; 06.10.15

technical drawings according to DIN specifications
TAPING VERSION TSOP..TR (SIDE VIEW) DIMENSIONS in millimeters

C. Heimdall without lens (TSOP75...WTR, TSOP77...WTR, TSSP...WTR, TSOP15...WTR, TSOP95...WTR)

Drawing-No.: 9.700-5342.01-4
Issue: 2; 12.06.13
LEADER AND TRAILER DIMENSIONS in millimeters

![Diagram of Leader and Trailer Dimensions]

COVER TAPE REEL STRENGTH
According to DIN EN 60286-3
0.1 N to 1.3 N
300 mm/min. ± 10 mm/min.
165° to 180° peel angle

LABEL
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 labels before transported as finished goods to warehouses. The labels are on each packing unit and contain Vishay Semiconductor GmbH specific data.

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<th>(finished goods)</th>
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DRY PACKAGING

The reel is packed in an anti-humidity bag to protect the devices from absorbing moisture during transportation and storage.

Aluminum bag

Label

Reel

15973

RECOMMENDED METHOD OF STORAGE

Dry box storage is recommended as soon as the aluminum 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 following condition:

192 h at 40 °C + 5 °C / - 0 °C and < 5 % RH (dry air / nitrogen) or
96 h at 60 °C + 5 °C and < 5 % RH for all device containers or
24 h at 125 °C + 5 °C not suitable for reel or tubes.

An EIA JEDEC® standard JSTD-020 level 4 label is included on all dry bags.

OUTER PACKAGING

The sealed reel is packed into a pizza box.

CARTON BOX DIMENSIONS in millimeters

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<th>Thickness</th>
<th>Width</th>
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<td>Pizza box (SMD and heimdall) (taping in reels)</td>
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<td>340</td>
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