

Tape and reel information – Radial components

Application Note



Valid for:
Radial components

Abstract

This application note provides tape and reel information for radial components from OSRAM Opto Semiconductors.

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A. Packaging of radial taped components on reels

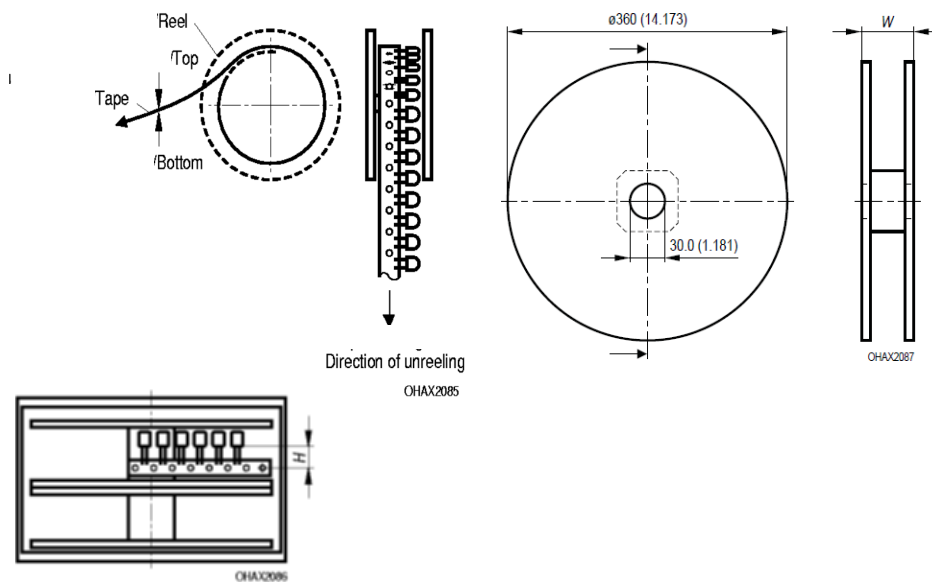
The taped components are wound onto reels and supplied in cartons, with two reels to a carton. With 5 mm (T 1¾) types there are 1,000 components on each reel, and with 3 mm (T 1) types there are 2,000.

Each reel and each carton is separately labeled as follows:

- Manufacturer's name
- Type designation
- Quantity
- Date code (YYWW)
- Packing variant
- Lot number

When tapes are spliced, the splices shall be equal in strength to the original tape. The splice shall be so precise that the misalignment of the holes in each direction is no more than 0.3 mm and the total thickness of the tape no more than 1.5 mm.

Figure 1: Tape and reel information



Dimensions in mm (inch)

Height of Tape H	Width of Reel W	
= 18 (0.709)	max. 56 (2.205)	(acc. to IEC 60286-2)
> 18 (0.709)	max. 64 (2.520)	–

B. Packaging of radial components in Ammopacks

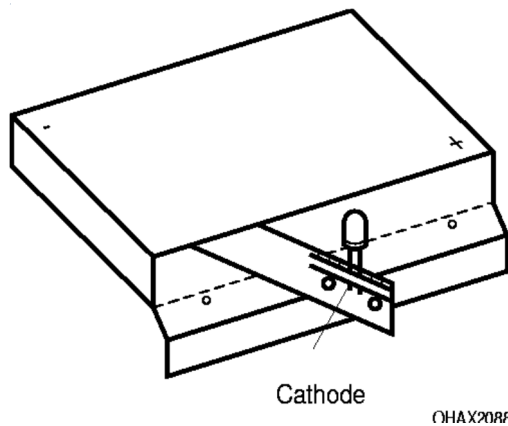
The component tape has a gap after every 24th component that is followed by a fold and is packed in meandering fashion into fold-up cartons holding 1,500 pieces (5 mm (T 1¾) type) or 2,000 pieces (3 mm (T 1) type).

Each fold-up carton is labeled as follows:

- Manufacturer's name
- Type designation
- Quantity
- Date code (YYWW)
- Packing variant
- Lot number

Polarity identification: both sides of the fold-up carton are marked with - or + (see Figure 2). The appropriate polarity is shown in Table 3.

Figure 2: Packaging radial components



C. Taping

The cardboard carrier tape is not expandable, but the hold down tape is expandable and flexible so that it can adapt to the leads of the components during taping. The hold down tape is formed in such a way that there is no danger

- of the taped components slipping out from the leads side, or
- that the leads of the taped components are subject to chemical action e.g. corrosion or oxidation
- which would result in difficulties in soldering.

D. Break force of the tape

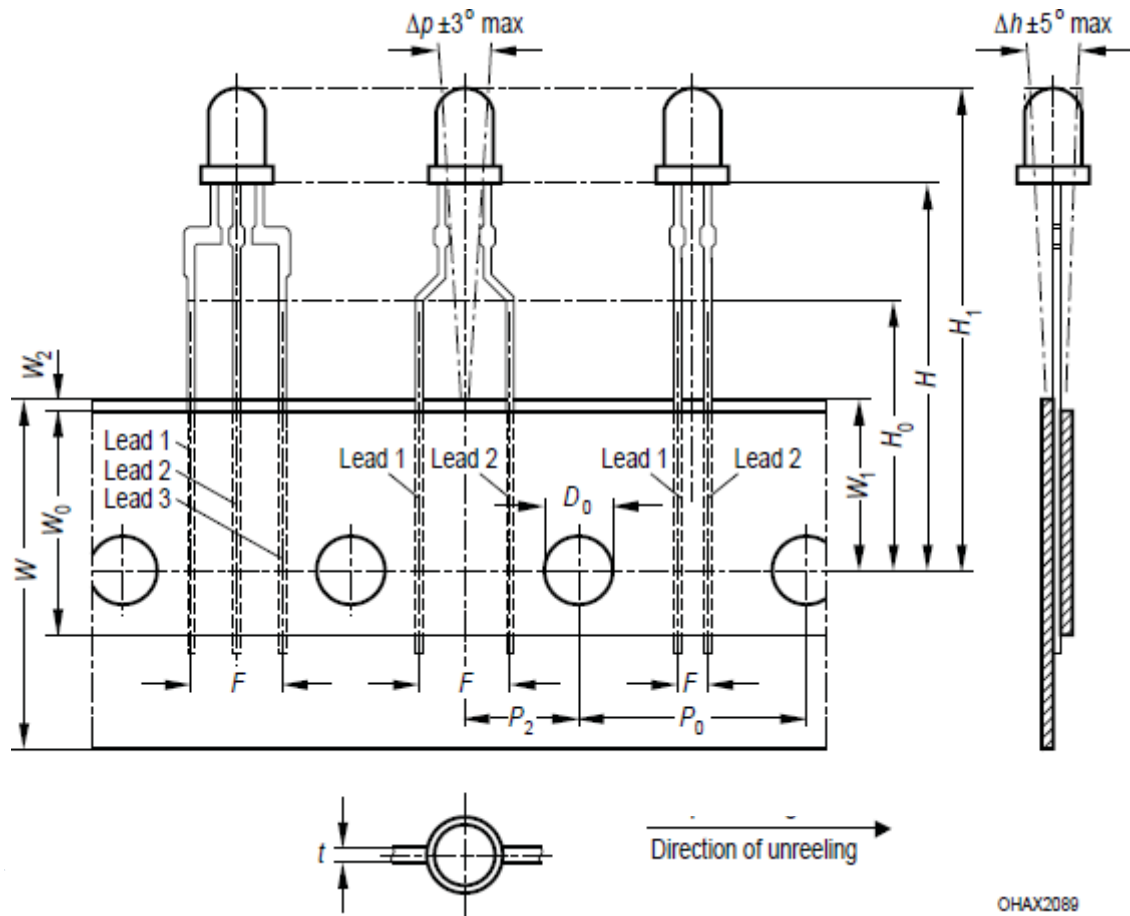
- Extraction force in the tape plane ≥ 15 N
- Vertically to the direction of unreeling ≥ 5 N

All polarized components are arranged in one direction during taping. The polarity can be seen from the following drawings and tables. There are only components of one selection group on a reel or ammopack.

The total number of components missing on a reel, excluding the empty spaces on the leader and trailer, should not exceed 0.1 % or one position. Directly behind there is no gap allowed.

At the beginning and end (leader and trailer) of the tape there are at least five gaps to simplify threading in and out of an automatic insertion system.

Figure 3: Tape



OHAX2089

Table 1: Symbol list

Symbol	Designation	Dimension mm (inch)	Tolerance (mm (inch))
W	Carrier tape width	18 (0.709)	+ 1 (0.039) - 0.5 (0.020)
W ₀	Hold down tape width	max. 15 (0.591)	—
W ₁	Sprocket hole position	9 (0.354)	+ 0.75 (0.030) - 0.5 (0.020)
W ₂	Hold down tape position	≤ 3 (0.118)	—
T	Total thickness of carrier and hold down tape	max. 0.9 (0.035)	—
D ₀	Sprocket hole diameter	4 (0.157)	± 0.2 (0.008)
H	Sprocket hole center to bottom of component	depends on suffix	

Table 1: Symbol list

Symbol	Designation	Dimension mm (inch)	Tolerance (mm (inch))
H ₀	Sprocket hole center of seating plane	16 (0.630)	± 0.5 (0.020)
H ₁	Sprocket hole center to top of component body	depends on suffix and type	
P ₀	Sprocket hole pitch	12.7 (0.500)	± 0.3 (0.012)
P ₂	Distance sprocket hole to center of component	6.35 (0.250)	± 0.7 (0.028)
F	Component lead pitch	2.54 (0.100) or 5.08 (0.200)	+ 0.6 (0.024) - 0.1 (0.004)

Figure 4: Tape

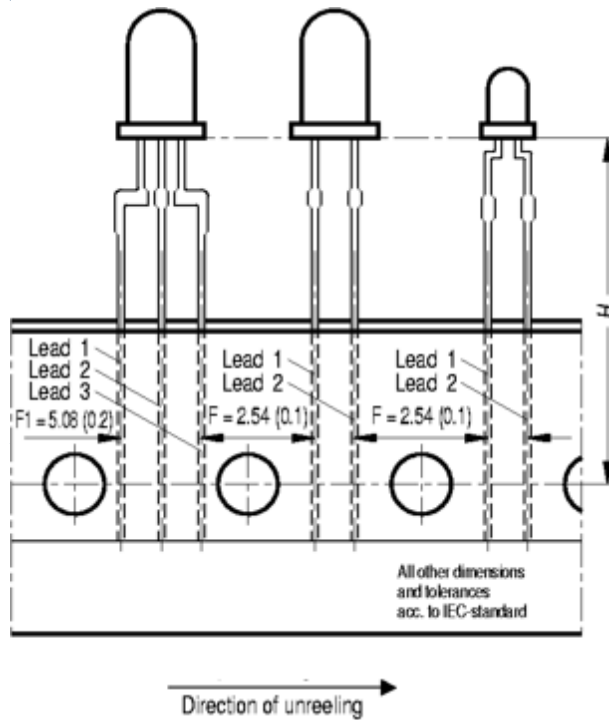


Table 2: Tape and reel

Packing variant	H mm (inch)	Polarity Lead 1 2 Lead devices	Polarity Lead 1 3 Lead devices
RN18A	18 ± 2 ¹ (0.709 ± 0.079)	Cathode / Collector	Anode 1 / Emitter
RN18C	18 ± 2 ¹ (0.709 ± 0.079)	Anode / Emitter	Anode 2 / Base
RN23A	22.5 ± 0.5 (0.886 ± 0.020)	Cathode / Collector	Anode 1 / Emitter
RN23C	22.5 ± 0.5 (0.886 ± 0.020)	Anode / Emitter	Anode 2 / Base
RN25A	25 ± 0.5 (0.984 ± 0.020)	Cathode / Collector	Anode 1 / Emitter
RN29A	28.5 ± 0.5 (1.122 ± 0.020)	Cathode / Collector	Anode 1 / Emitter
RN29C	28.5 ± 0.5 (1.122 ± 0.020)	Anode / Emitter	Anode 2 / Base

¹Acc. to IEC standard 60286-2

Table 3: Ammopack

Packing variant	H mm (inch)	Box side	Polarity Lead 1 2 Lead devices	Polarity Lead 1 3 Lead devices
AN18	18 ± 2 (0.709 ± 0.079)	-	Anode / Emitter	Anode 2 / Base
		+	Cathode / Collector	Anode 1 / Emitter
AN23	22.5 ± 0.5 (0.886 ± 0.020)	-	Anode / Emitter	Anode 2 / Base
		+	Cathode / Collector	Anode 1 / Emitter

Polarity identification Ammopack: Both sides of the fold-up carton are marked with “-” or “+”.

Note: The lead-marking depends on the choice of the unreeling direction (“-” or “+”). In case of 2-color LEDs, the polarity of Anode 1 refers to the LED with the higher wavelength, resp. Anode 2 to the LED with the lower wavelength.



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