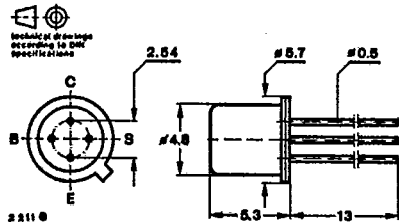


**Silicon NPN Epitaxial Planar Switching Transistor**
**Applications:** Amplifier and oscillators in the UHF range

**Dimensions in mm**

 Terminal "S"  
 connected with case  
 Case  
 18 A 4 DIN 41876  
 JEDEC TO 72  
 Weight max. 0.5 g

**Absolute maximum ratings**

Collector-base voltage	$V_{CBO}$	30	V
Collector-emitter voltage	$V_{CEO}$	15	V
Emitter-base voltage	$V_{EBO}$	3	V
Total power dissipation	$P_{tot}$	$T_{amb} \leq 25^\circ\text{C}$	200 mW
		$T_{case} \leq 25^\circ\text{C}$	300 mW
Junction temperature	$T_j$	200	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-65 ... +200	$^\circ\text{C}$

**Thermal resistances**

	Min.	Typ.	Max.
Junction ambient			880 K/W
Junction case			585 K/W

## 2 N 918

T-31-15

## DC characteristics

Min. Typ. Max.

 $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

## Collector cut-off current

 $V_{CB} = 15\text{ V}$  $I_{CBO}^{*)}$ 

10 nA

 $V_{CB} = 15\text{ V}$ ,  $T_{amb} = 150\text{ }^{\circ}\text{C}$  $I_{CBO}^{**)}$ 1  $\mu\text{A}$ 

## Collector-base breakdown voltage

 $I_C = 1\text{ }\mu\text{A}$  $V_{(BR)CBO}^{*)}$ 

30

V

## Collector-emitter breakdown voltage

 $I_C = 3\text{ mA}$  $V_{(BR)CEO}^{*)1)}$ 

15

V

## Emitter-base breakdown voltage

 $I_E = 10\text{ }\mu\text{A}$  $V_{(BR)EBO}^{*)}$ 

3

V

## Collector saturation voltage

 $I_C = 10\text{ mA}$ ,  $I_B = 1\text{ mA}$  $V_{CEsat}$ 

400 mV

## Base saturation voltage

 $I_C = 10\text{ mA}$ ,  $I_B = 1\text{ mA}$  $V_{BEsat}$ 

1 V

## DC forward current transfer ratio

 $V_{CE} = 1\text{ V}$ ,  $I_C = 3\text{ mA}$  $h_{FE}$ 

20

## AC characteristics

 $T_{amb} = 25\text{ }^{\circ}\text{C}$ 

## Gain bandwidth product

 $V_{CE} = 10\text{ V}$ ,  $I_C = 4\text{ mA}$ ,  $f = 100\text{ MHz}$  $f_T$ 

600

MHz

## Collector-base capacitance

 $V_{CB} = 10\text{ V}$ ,  $f = 1\text{ MHz}$  $C_{CB}$ 

1.7 pF

## Collector-base capacitance

 $V_{CB} = 0\text{ V}$ ,  $f = 1\text{ MHz}$  $C_{CBO}$ 

3.0 pF

## Emitter-base capacitance

 $V_{EB} = 0.5\text{ V}$ ,  $f = 1\text{ MHz}$  $C_{EBO}$ 

2.0 pF

## Noise figure

 $V_{CE} = 6\text{ V}$ ,  $I_C = 1\text{ mA}$ , $R_G = 400\text{ }\Omega$ ,  $f = 60\text{ MHz}$  $F^{**)}$ 

6 dB

## Power gain in common

emitter configuration, neutralized

 $V_{CE} = 12\text{ V}$ ,  $I_C = 6\text{ mA}$ ,  $f = 200\text{ MHz}$  $G_{pe}$ 

15

dB

## Output power in common base configuration

 $V_{CB} = 15\text{ V}$ ,  $I_C = 8\text{ mA}$ ,  $f = 500\text{ MHz}$  $P_o$ 

30

mW

\*) AQL = 0.65%, \*\*) AQL = 2.5%, <sup>1)</sup>  $\frac{t_D}{T} = 0.01$ ,  $t_p = 0.3\text{ ms}$

7. Taping and Reeling

T-91-20

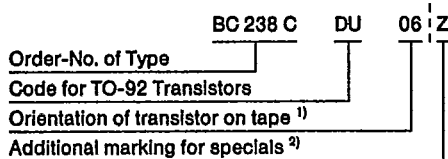
7.1. Taping of TO-92 Transistors

Standard reeling: Taped on reel, reeled together with a paper film.

7.1.1. Order Numbers

Add the taping-code to the order number.

Example:



- <sup>1)</sup> 06 = View on flat side of transistor, view on gummed tape
- 05 = View on round side of transistor, view on gummed tape

- <sup>2)</sup> Additional marking "0": taping without paper film
- Additional marking "Z": Zigzag folded tape in special box. Marking for orientation of transistor not necessary, because box can be opened on top or bottom

Example for order No.: BC 237 C DU Z

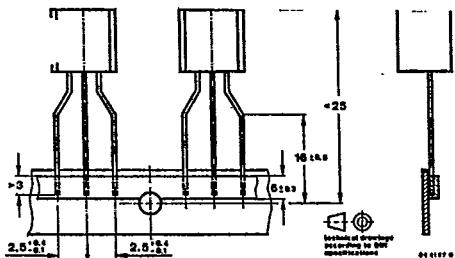


Fig. 7.3 Dimensions of tape in mm

7.1.2 Quantity of devices

- 1 000 devices per reel
- 2 000 devices per folded tape in special box.

7.2. Taped transistors in SOT 23 and SOT 143 case

7.2.1. Designation

a) Standard taping

Designation is attached with code GS 08 in case of standard taping. Example for normal version transistors as standard taped: BF 569-GS 08.

Example for R-version transistors as standard taped: BF 569 R-GS 08.

In case of standard taping, the transistor orientation on the tape is shown in Fig. 7.4 and Fig. 7.5.

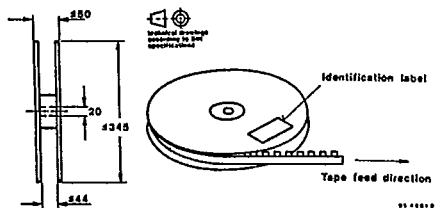


Fig. 7.1. Dimensions of reel in mm

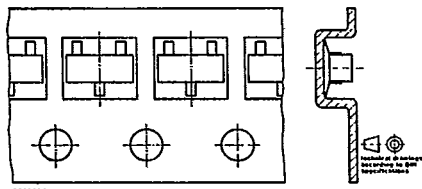


Fig. 7.4 Standard taped SOT 23

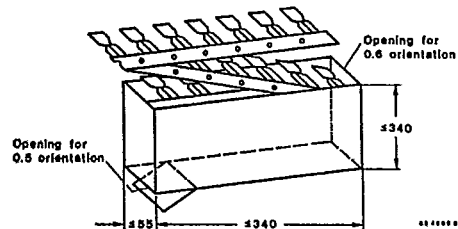


Fig. 7.2. Dimension of box for Zigzag folding in mm

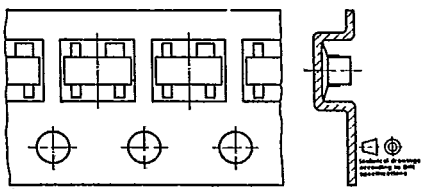


Fig. 7.5. Standard taped SOT 143

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b) Reverse taping

Designation is attached with code GS07 in case of reverse taping. Example for normal version transistors as reverse taped: BF 569-GS 07.

Example for R-version transistors as reverse taping: BF 569 R-GS 07.

In case of reverse taping, the transistor orientation on the tape is shown in Fig. 7.6.

Regarding MOS-FET and MES-FET devices, reverse taping is at present not available.

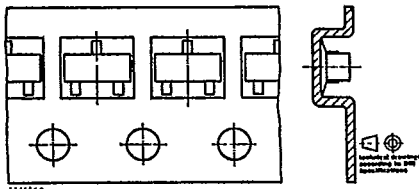


Fig. 7.6 Reverse taped SOT 23

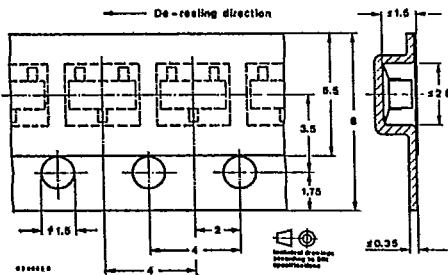


Fig. 7.7 Dimensions of tape in mm

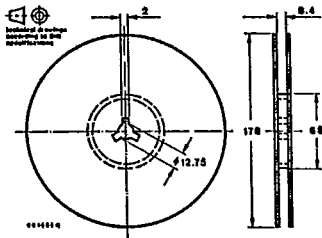


Fig. 7.8 Dimensions of reel in mm

7.2.2 Quantity of devices

3000 devices per reel