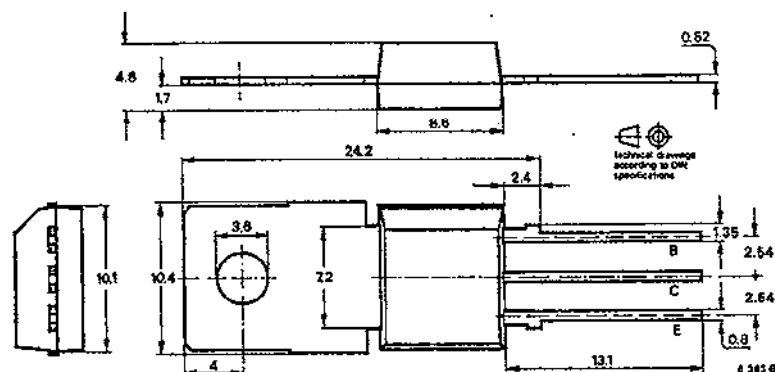
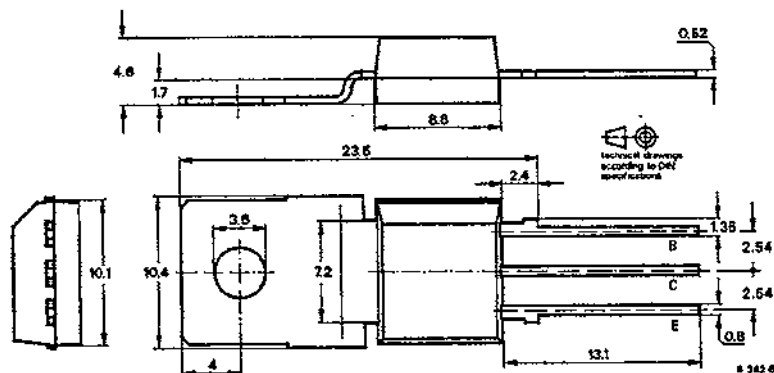


**BF 870 S · BF 872 S****T-33-17****Silicon PNP Epitaxial Planar RF Transistors**

Applications: Video-B-class power stages in TV-receivers

**Features:**

- High reverse voltage
- BF 870 S complementary to BF 869 S
- BF 872 S complementary to BF 871 S
- Constant  $h_{FE}$  at  $I_C = 10 \mu A \dots 10 mA$

**Dimensions in mm****BF 870 S · BF 872 S****BF 870 SA · BF 872 SA**Collector connected with  
metallic surface

Standard plastic case

34 A 3 DIN 41 869

JEDEC TO 202

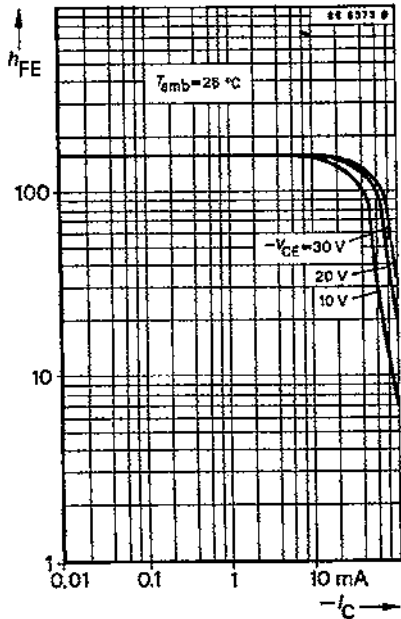
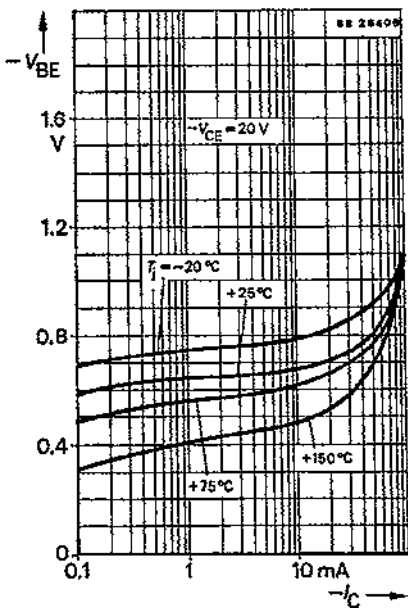
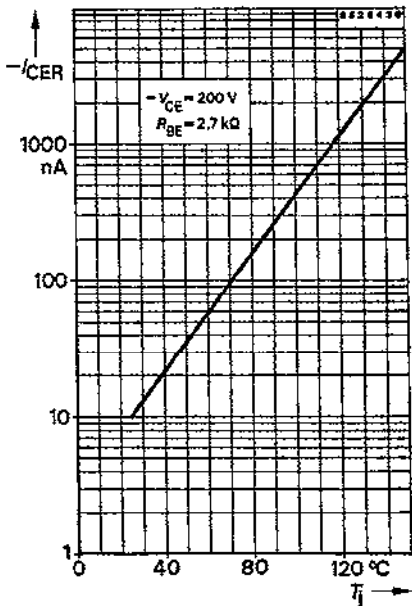
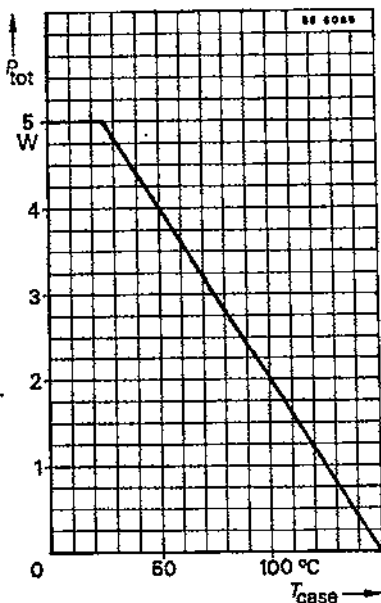
Weight max. 1.8 g

T1.2/1024.0888 E

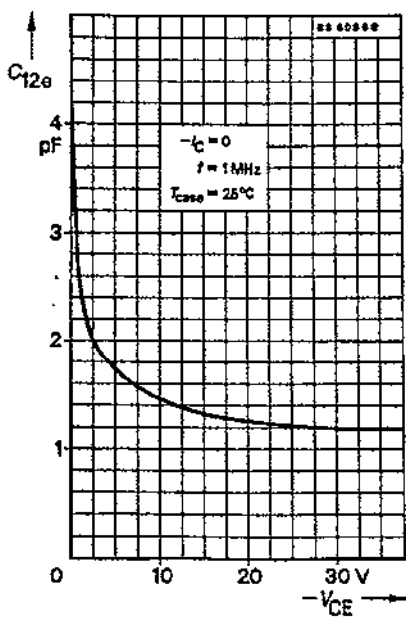
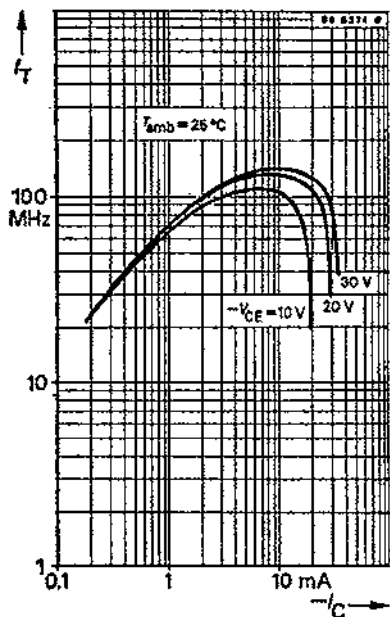
Absolute maximum ratings		BF 869S	BF 871S	
Collector-base voltage	$-V_{CBO}$	250	300	V
Collector-emitter voltage	$-V_{CEO}$	250	300	V
$R_{BE} \leq 2.7 \text{ k}\Omega$	$-V_{CER}$	250	300	V
Emitter-base voltage	$-V_{EBO}$	5		V
Collector current	$-I_C$	50		mA
Collector peak current	$-I_{CM}$	100		mA
Total power dissipation	$P_{tot}$	5		W
$T_{case} \leq 25^\circ\text{C}$	$T_j$	150		$^\circ\text{C}$
Junction temperature	$T_{stg}$	-65 ... +150		$^\circ\text{C}$
Storage temperature range				
<b>Maximum thermal resistances</b>				
Junction ambient	$R_{thJA}$	85		K/W
Junction case	$R_{thJC}$	25		K/W
<b>Characteristics</b>				
		Min.	Typ.	Max.
$T_{amb} = 25^\circ\text{C}$ , unless otherwise specified				
Collector cut-off current				
$-V_{CB} = 200 \text{ V}$	BF 870S			50 nA
$-V_{CE} = 250 \text{ V}, R_{BE} = 2.7 \text{ k}\Omega$	BF 872S			50 nA
$-V_{CE} = 200 \text{ V}, R_{BE} = 2.7 \text{ k}\Omega, T_j = 150^\circ\text{C}$				10 $\mu\text{A}$
Emitter cut-off current				
$-V_{EB} = 5 \text{ V}$				10 $\mu\text{A}$
Collector-emitter breakdown voltage				
$-I_C = 1 \text{ mA}$	BF 870S	250		V
$-I_C = 1 \mu\text{A}, R_{BE} = 2.7 \text{ k}\Omega$	BF 872S	300		V
DC forward current transfer ratio				
$-V_{CE} = 20 \text{ V}, -I_C = 25 \text{ mA}$		50		
Gain bandwidth product				
$-V_{CE} = 10 \text{ V}, -I_C = 10 \text{ mA}$		60	90	MHz
Feedback capacitance				
$-V_{CE} = 30 \text{ V}, -I_C = 0, f = 1 \text{ MHz}$		1.2	1.8	pF
Collector saturation RF voltage				
$-I_C = 25 \text{ mA}, T_j = 150^\circ\text{C}$		20		V

**BF 870S · BF 872S**

T-33-17



T-33-17



T-91-20

A E G CORP

### ● Family of curves

Besides the static (d. c.) and dynamic (a. c.) characteristics, family of curves are given for specified operating conditions. They show the typical interdependence of individual characteristics. Partly are given the scattering limits. They signify that at least 95% of the delivery lies inside these tolerances.

### 6.6. Additional informations

#### Preliminary specifications

This heading indicates that some information on the device concerned may be subject to slight changes.

#### Not for new developments

This heading indicates that the device concerned should not be used in equipment under development, it is, however, available for present production.

## 7. Taping and reeling

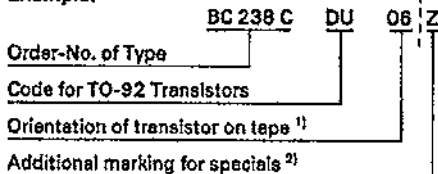
### 7.1. Taping of TO-92 transistors

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> 08 = 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

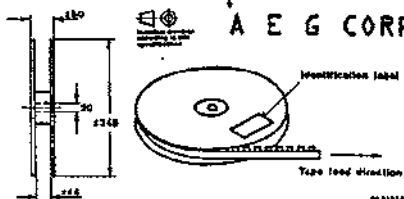


Fig. 7.1. Dimensions of reel in mm

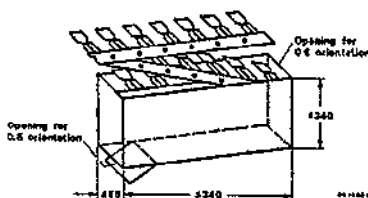


Fig. 7.2. Dimension of box for Zigzag folding in mm

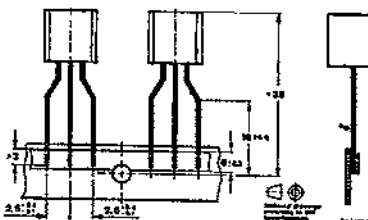


Fig. 7.3. Dimensions of tape in mm

#### 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

#### 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-GS08.

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.

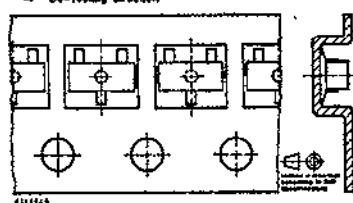


Fig. 7.4 Standard taped SOT 23

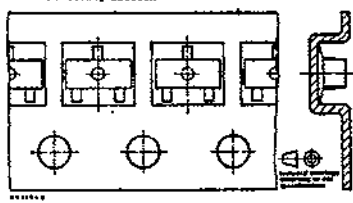


Fig. 7.6 Reverse taped SOT 23

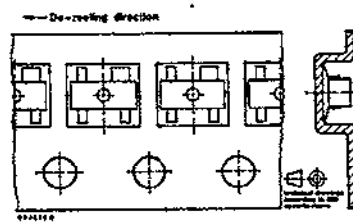


Fig. 7.5 Standard taped SOT 143

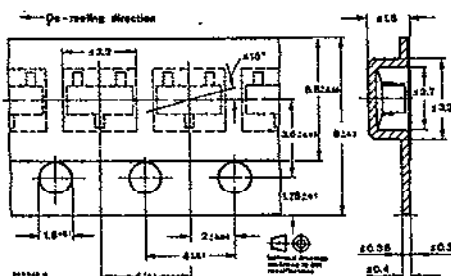


Fig. 7.7 Dimensions of tape in mm

b) Reverse taping

Designation is attached with code GS07 in case of reverse taping. Example for normal version transistors as reverse taped: BF 569 R-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. 6. Regarding MOF-FET and MES-FET devices, reverse taping is at present not available.

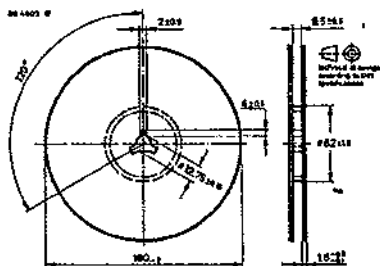


Fig. 7.8 Dimensions of reel in mm

7.2.2 Quantity of devices

3000 devices per reel

8. Accessories

Number	Fig.	Designation
119880	8.1.	Isolating washer thickness 80 $\mu$ m
564542	8.2.	Isolating washer thickness 50 $\mu$ m
912884	8.3	Isolating washer thickness 50 $\mu$ m
191 131	8.4	Isolating washer thickness 50 $\mu$ m
191 140	8.5	Mounting clip
569 524	8.8	Isolating washer thickness 100 $\mu$ m + 80 $\mu$ m

For case

- 12A 3 DIN 41 869  
JEDEC TO 126 (SOT 32)
- 14A 3 DIN 41 869  
JEDEC TO 220 (SOT 78)
- 15A 3 DIN 41 869  
(TOP3) for clip mounting
- 15A 3 DIN 41 869  
(TOP3) for screw mounting
- 15A 3 DIN 41 869  
(TOP3)
- 3B 2 DIN 41 872  
JEDEC TO 3  
Devices with high reverse voltage