



**TELEFUNKEN electronic**  
Creative Technologies

**BF 885 S**

*T-33-05*

# Silicon NPN Epitaxial Planar RF Transistor

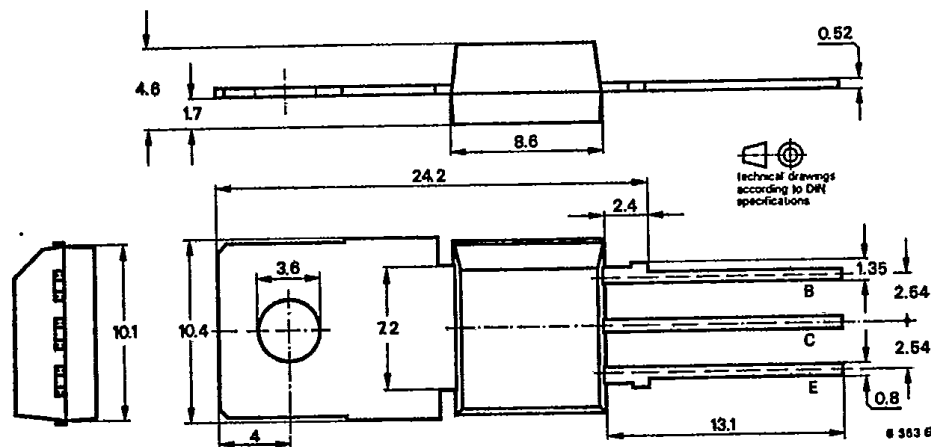
Applications: Video B-class power stages in TV receivers

## Features:

● High reverse voltage

● No  $h_{FE}$ -drift dependent of temperature

## Dimensions in mm



Standard plastic case

34 A 3 DIN 41 869

JEDEC TO 202

Weight max. 1.8 g

Collector connected with metallic surface

## Absolute maximum ratings

|                                   |           |              |    |
|-----------------------------------|-----------|--------------|----|
| Collector-base voltage            | $V_{CBO}$ | 300          | V  |
| Collector-emitter voltage         | $V_{CER}$ | 300          | V  |
| $R_{BE} \leq 2.7 \text{ k}\Omega$ | $V_{EBO}$ | 5            | V  |
| Emitter-base voltage              | $I_C$     | 50           | mA |
| Collector current                 | $I_{CM}$  | 300          | mA |
| Collector peak current            | $P_{tot}$ | 7            | W  |
| Total power dissipation           | $T_J$     | 150          | °C |
| $T_{case} \leq 25 \text{ °C}$     | $T_{stg}$ | -65 ... +150 | °C |
| Junction temperature              |           |              |    |
| Storage temperature range         |           |              |    |

## Maximum thermal resistances

|                  |            |     |     |
|------------------|------------|-----|-----|
| Junction ambient | $R_{thJA}$ | 78  | K/W |
| Junction case    | $R_{thJC}$ | 178 | K/W |

T1.2/821.0888 E

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## Characteristics

Min. Typ. Max.

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

## Collector cut-off current

 $V_{CE} = 250 V, R_{BE} = 2.7 k\Omega$  $I_{CER}$ 

50 nA

 $V_{CE} = 200 V, R_{BE} = 2.7 k\Omega, T_J = 150^{\circ}C$  $I_{CER}$ 10  $\mu A$ 

## Emitter cut-off current

 $V_{EB} = 5 V$  $I_{EBO}$ 10  $\mu A$ 

## Collector-emitter breakdown voltage

 $I_C = 1 \mu A, R_{BE} = 2.7 k\Omega$  $V_{(BR)CER}$ 

300

V

## DC forward current transfer ratio

 $V_{CE} = 20 V, I_C = 25 mA$  $h_{FE}$ 

50

## Gain bandwidth product

 $V_{CE} = 10 V, I_C = 10 mA$  $f_T$ 

60

90

MHz

## Feedback capacitance

 $V_{CE} = 30 V, I_C = 1 mA, f = 1 MHz$  $C_{12\phi}$ 

1.2

1.8

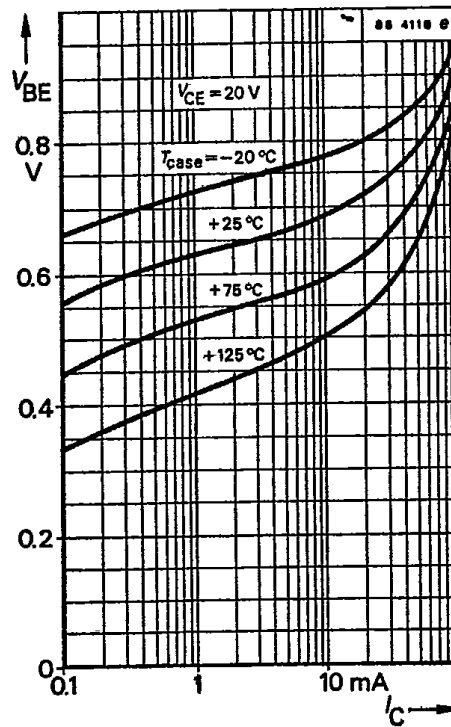
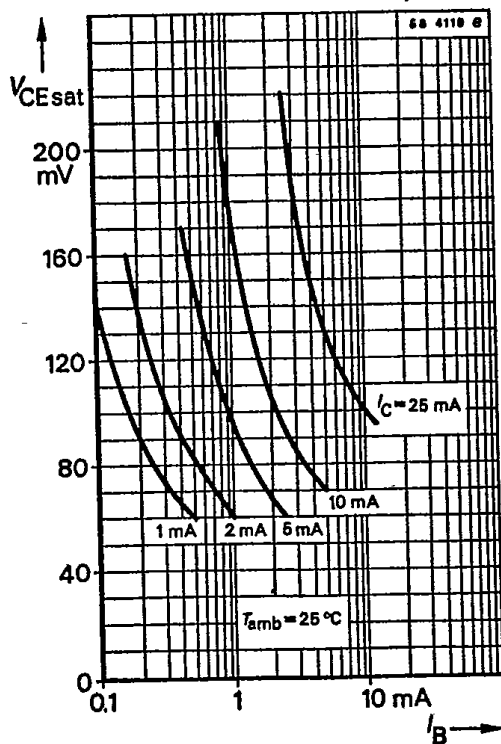
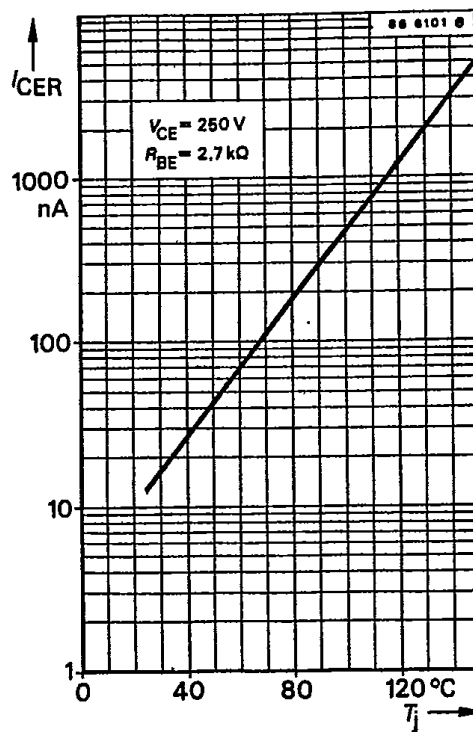
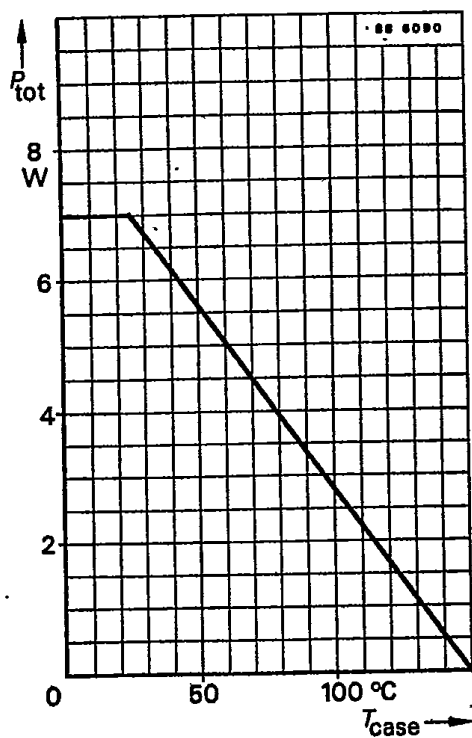
pF

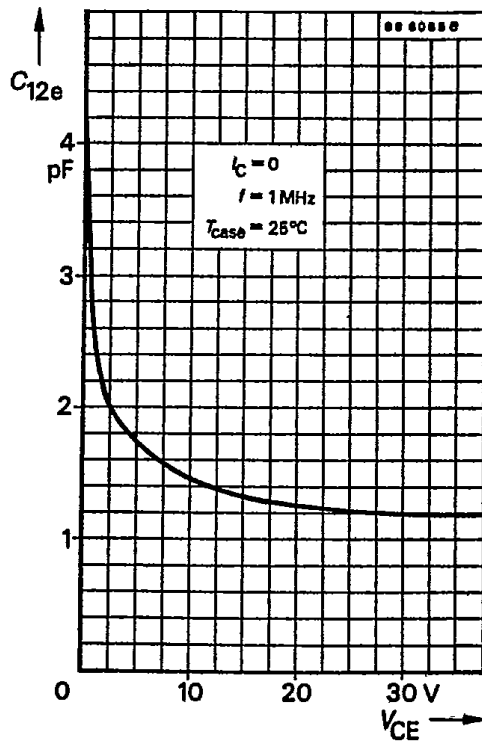
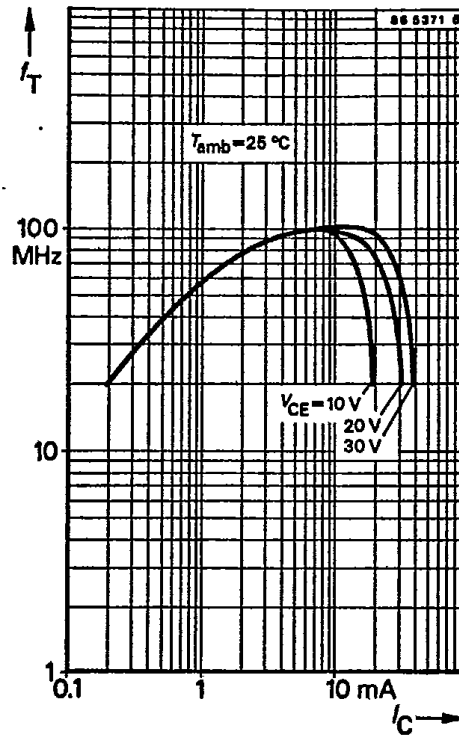
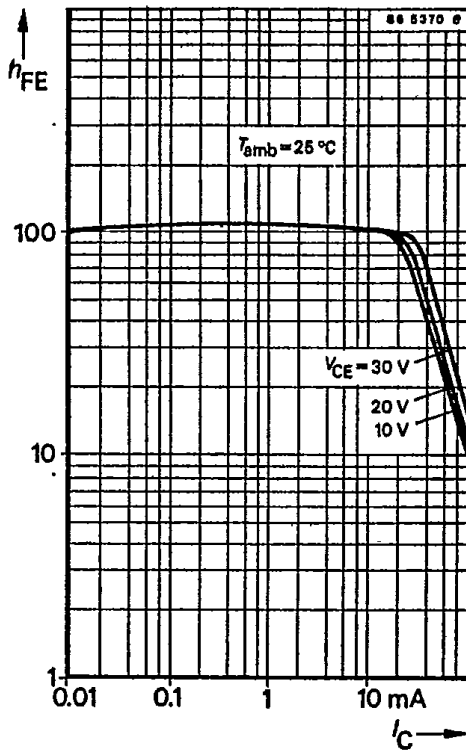
## Collector saturation RF voltage

 $I_C = 25 mA, T_J = 150^{\circ}C$  $V_{CEsatHF}$ 

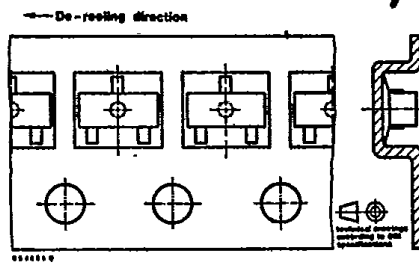
20

V

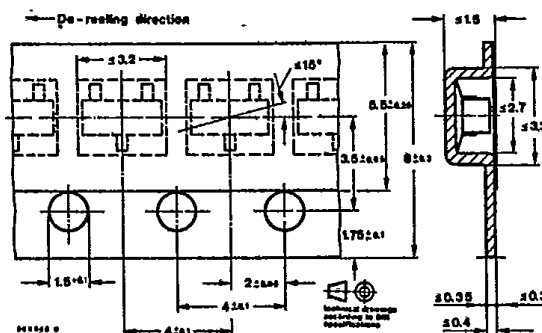








**Fig. 7.6 Reverse taped SOT 23**



**Fig. 7.7 Dimensions of tape in mm**

[illegible]

**7.2.2 Quantity of devices**  
3000 devices per reel

**For case**

| Number | Fig. | Designation                               | For case                                                           |
|--------|------|-------------------------------------------|--------------------------------------------------------------------|
| 119880 | 8.1. | Isolating washer thickness 60 µm          | 12A 3 DIN 41 869<br>JEDEC TO 126 (SOT 32)                          |
| 564542 | 8.2. | Isolating washer thickness 50 µm          | 14A 3 DIN 41 869<br>JEDEC TO 220 (SOT 78)                          |
| 912884 | 8.3  | Isolating washer thickness 50 µm          | 15A 3 DIN 41 869<br>(TOP3) for clip mounting                       |
| 191131 | 8.4  | Isolating washer thickness 50 µm          | 15A 3 DIN 41 869<br>(TOP3) for screw mounting                      |
| 191140 | 8.5  | Mounting clip                             | 15A 3 DIN 41 869<br>(TOP3)                                         |
| 569524 | 8.6  | Isolating washer thickness 100 µm + 50 µm | 3B 2 DIN 41 872<br>JEDEC TO 3<br>Devices with high reverse voltage |