

Silicon PNP Epitaxial Planar RF Transistors

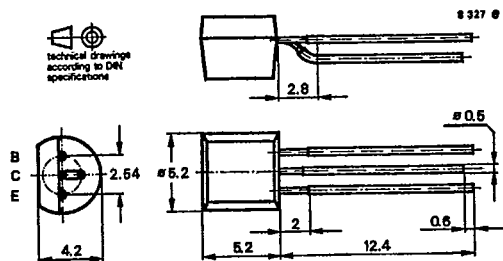
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Applications: Video B-class power stages in TV-receivers

Features:

- BF 421 S complementary to BF 420 S
- BF 423 S complementary to BF 422 S
- Constant h_{FE} at $I_C = 10 \mu A \dots 10 \text{ mA}$

Dimensions in mm



Standard plastic case
 10 A 3 DIN 41 868
 JEDEC TO 92 Z
 Weight max. 0.2 g

Absolute maximum ratings

		BF 421 S	BF 423 S	
Collector-base voltage	$-V_{CBO}$	300	250	V
Collector-emitter voltage	$-V_{CEO}$	300	250	V
Emitter-base voltage	$-V_{EBO}$	5		V
Collector current	$-I_C$	25		mA
Collector peak current	$-I_{CM}$	100		mA
Total power dissipation	P_{tot}	830		mW
$R_{thJA} \leq 150 \text{ K/W}, T_{amb} \leq 25^\circ \text{C}$				
Junction temperature	T_J	150		$^\circ \text{C}$
Storage temperature range	T_{stg}	-65 ... +150		$^\circ \text{C}$

Maximum thermal resistances

Junction ambient

 $l \leq 3 \text{ mm}$ on copper cooling area $\geq 10 \text{ mm} \times 10 \text{ mm}$ with $35 \mu \text{m}$ thickness

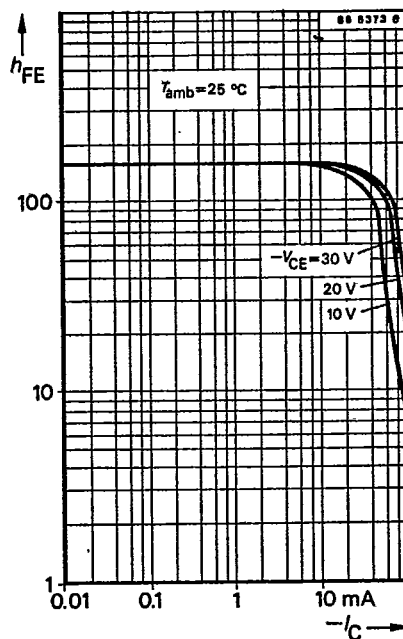
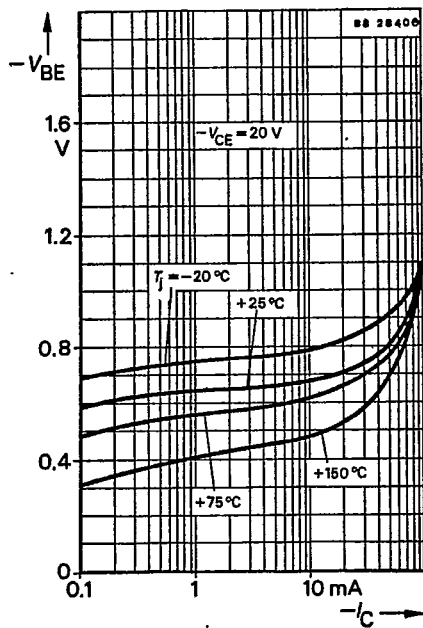
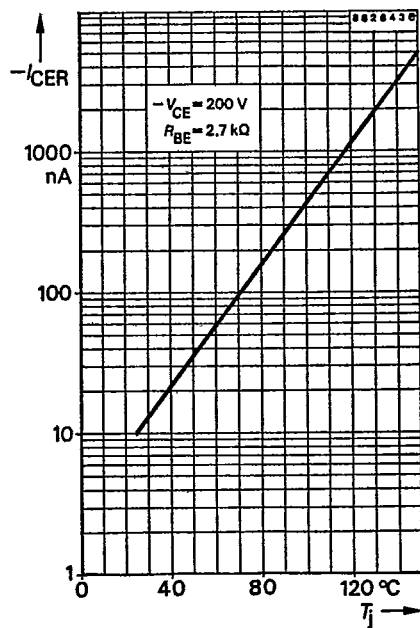
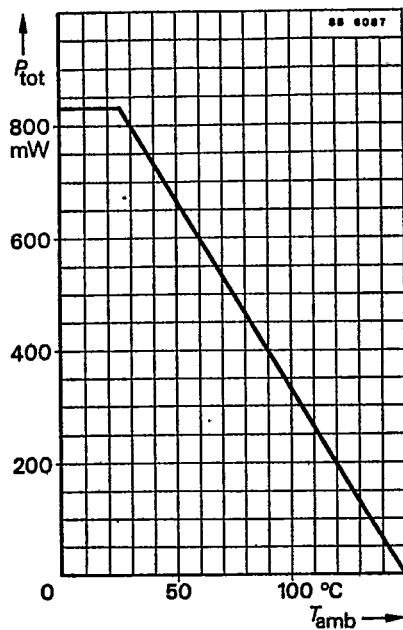
R_{thJA}	150	K/W
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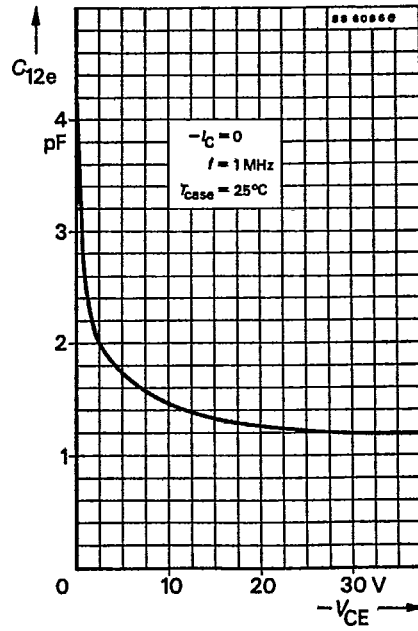
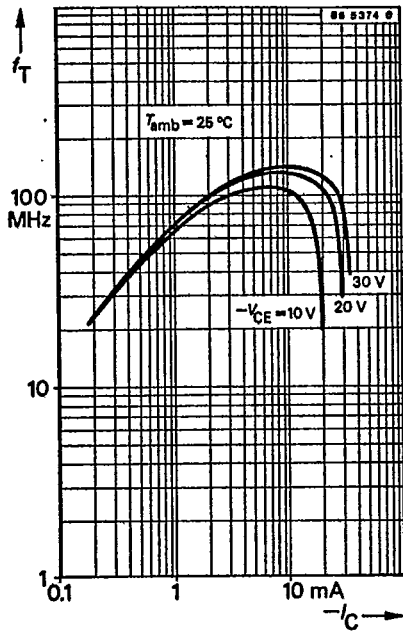
Characteristics		Min.	Typ.	Max.
$T_{amb} = 25^{\circ}C$, unless otherwise specified				
Collector cut-off current				
$-V_{CB} = 250 V$	BF 421 S	$-I_{CBO}$		50 nA
$-V_{CB} = 200 V$	BF 423 S	$-I_{CBO}$		50 nA
$-V_{CE} = 200 V; R_{BE} = 2.7 k\Omega, T_j = 150^{\circ}C$		$-I_{CER}$		10 μA
Emitter cut-off current				
$-V_{BE} = 5 V$		$-I_{EBO}$		10 μA
Collector-base breakdown voltage				
$-I_C = 10 \mu A$	BF 421 S	$-V_{(BR)CBO}$	300	V
	BF 423 S	$-V_{(BR)CBO}$	250	V
Collector-emitter breakdown voltage				
$-I_C = 1 mA$	BF 421 S	$-V_{(BR)CEO}$	300	V
	BF 423 S	$-V_{(BR)CEO}$	250	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				
$-V_{CE} = 30 V, I_C = 0, f = 1.0 MHz$		C_{12e}	1.1	1.6 pF
Feedback time constant				
$-V_{CB} = 20 V, -I_E = 10 mA, f = 10.7 MHz$		$r_{bb'}C_{b'c}$		70 ps
Collector saturation RF voltage				
$-I_C = 25 mA, T_j = 150^{\circ}C$		$-V_{CEsat HF}$	20	V

BF 421 S · BF 423 S

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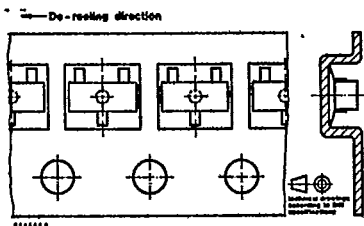


Fig. 7.4 Standard taped SOT 23

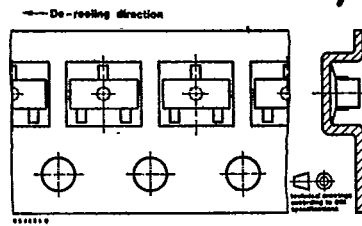


Fig. 7.6 Reverse taped SOT 23

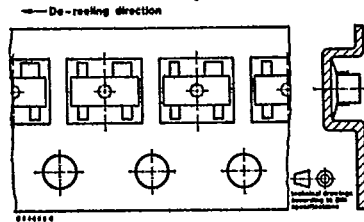


Fig. 7.5 Standard taped SOT 143

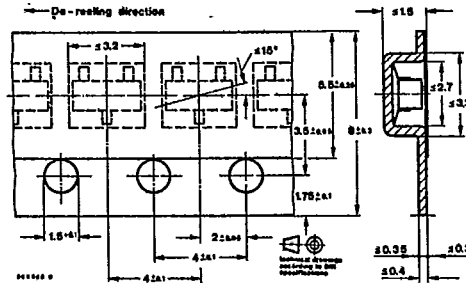


Fig. 7.7 Dimensions of tape in mm

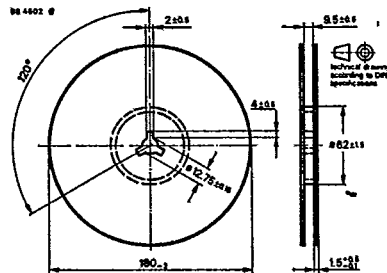


Fig. 7.8 Dimensions of reel in mm

b) Reverse taping

Designation is attached with code GS 07 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 tapping: 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.

8. Assessories

Number	Fig.	Designation	For case
119 880	8.1.	Isolating washer thickness 60 µm	12 A 3 DIN 41 869 JEDEC TO 126 (SOT 32)
564 542	8.2.	Isolating washer thickness 50 µm	14 A 3 DIN 41 869 JEDEC TO 220 (SOT 78)
912 884	8.3	Isolating washer thickness 50 µm	15 A 3 DIN 41 869 (TOP3) for clip mounting
191 131	8.4	Isolating washer thickness 50 µm	15 A 3 DIN 41 869 (TOP3) for screw mounting
191 140	8.5	Mounting clip	15 A 3 DIN 41 869 (TOP3)
569 524	8.6	Isolating washer thickness 100 µm + 50 µm	3B 2 DIN 41 872 JEDEC TO 3 Devices with high reverse voltage