

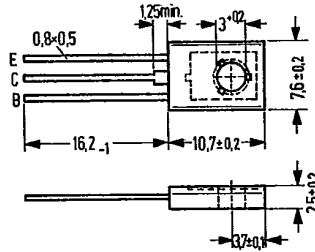
NPN Silicon Planar Transistors

BF 469  
BF 471

SIEMENS AKTIENGESELLSCHAFT

BF 469 and BF 471 are epitaxial NPN silicon planar transistors in TO 126 plastic package (12 A 3 DIN 41869, sheet 4). The collector is conductively connected to the metallic mounting area of the transistor. With the complementary types BF 470 and BF 472, these transistors are particularly suitable for use in video B output stages of TV receivers.

Type	Ordering code
BF 469	Q62702-F497
BF 471	Q62702-F507
Spring washer A3 DIN 137	Q62902-B63
Mica washer	Q62902-B62



Approx. weight 0.5 g      Dimensions in mm  
 Transistor fixing with M 3 screw;  
 starting torque max. 0.8 Nm;  
 washer or spring washer should be used.

Maximum ratings

	BF 469	BF 471	
Collector-base voltage	250	300	V
Collector-emitter voltage	250	-	V
Collector-emitter voltage	-	300	V
Emitter-base voltage	5	5	V
Collector current	30	30	mA
Collector peak current	100	100	mA
Junction temperature	150	150	°C
Storage temperature range	-65 to +150	-65 to +150	°C
Total power dissipation ( $T_{case} \leq 110^{\circ}C$ )	2	2	W

Thermal resistance

Junction to ambient air <sup>1)</sup>	$R_{thJA}$	$\leq 100$	$\leq 100$	K/W
Junction to case	$R_{thJC}$	$\leq 20$	$\leq 20$	K/W

1) For fixing the transistors with max. 4 mm long leads on PCBs with a 10 mm<sup>2</sup> large copper area for the collector terminal.

## SIEMENS AKTIENGESELLSCHAFT

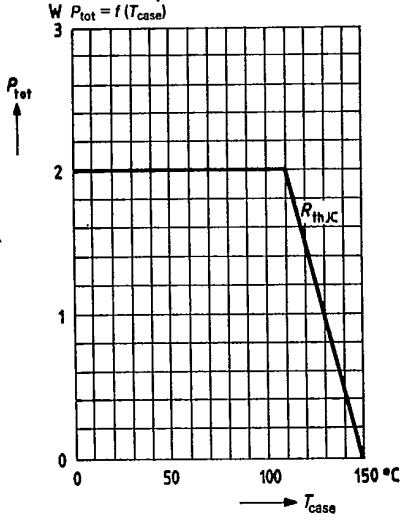
Static characteristics ( $T_{amb} = 25^{\circ}\text{C}$ )

		BF 469	BF 471	
Collector-base breakdown voltage ( $I_C = 10 \mu\text{A}$ )	$V_{(BR)CBO}$	>250	>300	V
Collector-emitter breakdown voltage ( $I_C = 1 \mu\text{A}$ )	$V_{(BR)CEO}$	>250	-	V
Collector-emitter breakdown voltage ( $R_{BE} = 2.7 \text{ k}\Omega$ )	$V_{(BR)CER}$	-	>300	V
Emitter-base breakdown voltage ( $I_E = 10 \mu\text{A}$ )	$V_{(BR)EBO}$	>5	>5	V
Collector cutoff current ( $V_{CE} = 200 \text{ V}$ ; $R_{BE} = 2.7 \text{ k}\Omega$ ; $T_{amb} = 150^{\circ}\text{C}$ )	$I_{CER}$	$\leq 10$	$\leq 10$	$\mu\text{A}$
Collector cutoff current ( $V_{CB} = 200 \text{ V}$ )	$I_{CBO}$	$\leq 10$	$\leq 10$	nA
Emitter cutoff current ( $V_{EB} = 5 \text{ V}$ )	$I_{EBO}$	$\leq 10$	$\leq 10$	$\mu\text{A}$
Collector-emitter saturation voltage ( $I_C = 25 \text{ mA}$ ; $T_j = 150^{\circ}\text{C}$ )	$V_{CEsat HF}$	20	-	V
( $I_C = 25 \text{ mA}$ ; $T_{amb} = 150^{\circ}\text{C}$ )		-	20	V
DC current gain ( $I_C = 25 \text{ mA}$ ; $V_{CE} = 20 \text{ V}$ )	$h_{FE}$	$\geq 50$	$\geq 40$	-

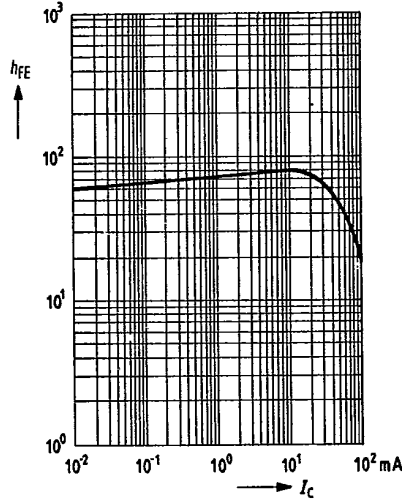
Dynamic characteristics ( $T_{amb} = 25^{\circ}\text{C}$ )

Transition frequency ( $V_{CE} = 10 \text{ V}$ ; $I_C = 10 \text{ mA}$ )	$f_T$	$\geq 60$	$\geq 60$	MHz
Reverse transfer capacitance ( $V_{CB} = 30 \text{ V}$ )	$-C_{12e}$	$\leq 1.8$	$\leq 1.8$	pF
Feedback time constant ( $V_{CB} = 20 \text{ V}$ ; $-I_E = 10 \text{ mA}$ ; $f = 10.7 \text{ MHz}$ )	$r_{bb'} C_{b'c}$	$\leq 90$	$\leq 90$	ps

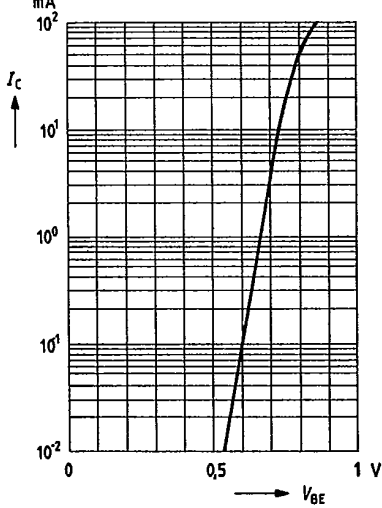
Total perm. power dissipation versus temperature



DC current gain  $h_{FE} = f(I_C)$   
 $V_{CE} = 10\text{ V}; T_{case} = 25^\circ\text{C}$



Collector current  $I_C = f(V_{BE})$   
 $V_{CE} = 10\text{ V}; T_{case} = 25^\circ\text{C}$



Transition frequency  $f_T = f(I_C)$   
 $V_{CE} = 10\text{ V}; T_{case} = 25^\circ\text{C}$

