

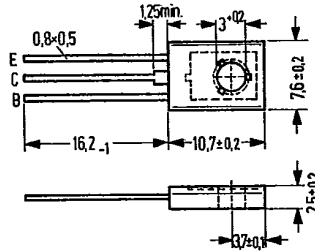
NPN Silicon Planar Transistors

BF 469
BF 471

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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 ¹⁾ | R_{thJA} | ≤ 100 | ≤ 100 | K/W |
| Junction to case | R_{thJC} | ≤ 20 | ≤ 20 | K/W |

1) For fixing the transistors with max. 4 mm long leads on PCBs with a 10 mm² large copper area for the collector terminal.

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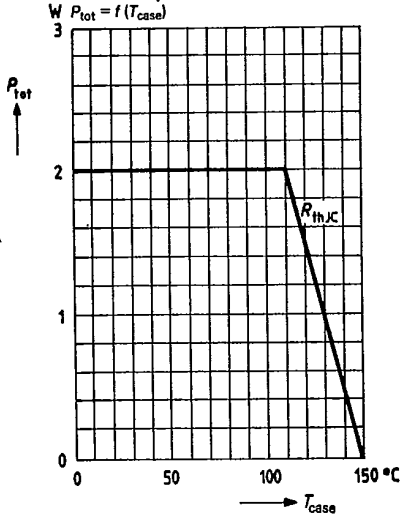
Static characteristics ($T_{amb} = 25^{\circ}\text{C}$)

| | | 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} | ≤ 10 | ≤ 10 | μA |
| Collector cutoff current ($V_{CB} = 200 \text{ V}$) | I_{CBO} | ≤ 10 | ≤ 10 | nA |
| Emitter cutoff current ($V_{EB} = 5 \text{ V}$) | I_{EBO} | ≤ 10 | ≤ 10 | μA |
| 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} | ≥ 50 | ≥ 40 | - |

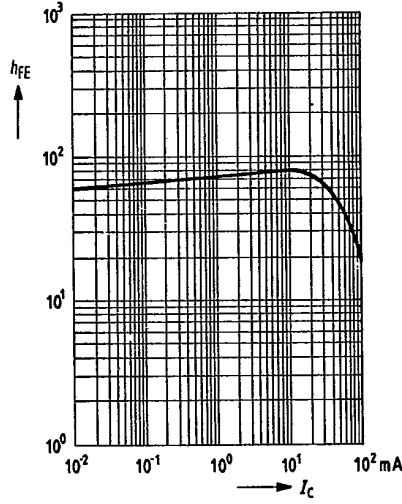
Dynamic characteristics ($T_{amb} = 25^{\circ}\text{C}$)

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

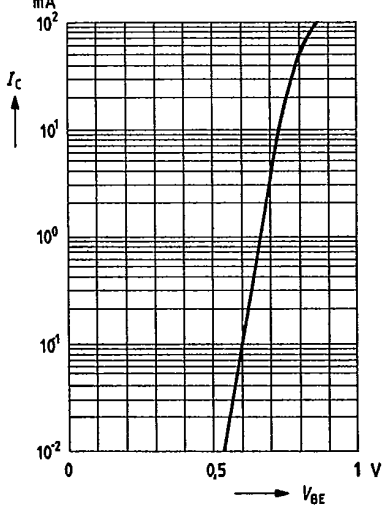
Total perm. power dissipation versus temperature



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

