# NPN Silicon RF Transistors

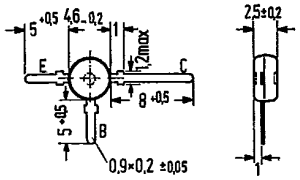
**BF 362**
**BF 363**

SIEMENS AKTIENGESELLSCHAF

**for UHF TV tuners**

BF 362 and BF 363 are NPN silicon planar RF transistors in a plastic package similar to TO 119 (50 B3 DIN 41867). BF 362 is particularly suitable for gain-controlled input stages, and BF 363 for self-oscillating mixer stages in TV UHF tuners.

| Type | Ordering code |
|---|---|
| BF 362 | Q62702-F395 |
| BF 363 | Q62702-F396 |




Approx. weight 0.25 g Dimensions in mm

| Maximum ratings | | BF 362, BF 363 | |
|---|---|---|---|
| Collector-emitter voltage | $V_{CEO}$ | 20 | V |
| Collector-base voltage | $V_{CBO}$ | 20 | V |
| Emitter-base voltage | $V_{EBO}$ | 3 | V |
| Collector current | $I_C$ | 20 | mA |
| Junction temperature | $T_j$ | 125 | °C |
| Storage temperature range | $T_{stg}$ | −55 to +125 | °C |
| Total power dissipation ($T_{amb} \leq 55$ °C) | $P_{tot}$ | 120 | mW |
| **Thermal resistance** | | | |
| Junction to ambient air | $R_{thJA}$ | ≦580 | K/W |
| **Static characteristics ($T_{amb}$ = 25 °C)** | | | |
| Base current ($I_E$ = 3 mA; $V_{CB}$ = 10 V) | $I_B$ | <150 | µA |
| Base current ($I_E$ = 12 mA; $V_{CB}$ = 7 V) | $I_B$ | <1 | mA |
| Base-emitter forward voltage ($I_C$ = 2 mA; $V_{CE}$ = 10 V) | $V_{BE}$ | 750 | mV |

| Dynamic characteristics ($T_{amb}$ = 25 °C) | | BF 362 | BF 363 | |
|---|---|---|---|---|
| Transition frequency ($I_C$ = 3 mA; $V_{CE}$ = 10 V; $f$ = 100 MHz) | $f_T$ | 800 | 600–820 | MHz |
| Power gain ($I_C$ = 3 mA; $V_{CB}$ = 10 V; $f$ = 900 MHz; $R_g$ = 50 Ω; $R_L$ = 500 Ω) | $G_p$ | >11 | >11 | dB |
| Noise figure ($I_C$ = 3 mA; $V_{CB}$ = 10 V) | | | | |
| at $f$ = 500 MHz; $Y_g$ = 16.7 mS | $NF$ | 4 | 4 | dB |
| at $f$ = 800 MHz; $Y_g$ = 16.7 mS | $NF$ | 4.5 | 5 | dB |
| Short-circuit reverse transfer capacitance ($I_C$ = 1 mA; $V_{CE}$ = 10 V; $f$ = 1 MHz) | $-C_{12e}$ | 0.33 | 0.33 | pF |
| Small-signal short-circuit reverse transfer admittance ($I_C$ = 3 mA; $V_{CB}$ = 10 V; $f$ = 900 MHz) | $\lvert y_{12b} \rvert$ | 0.95 | 0.95 | mS |

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