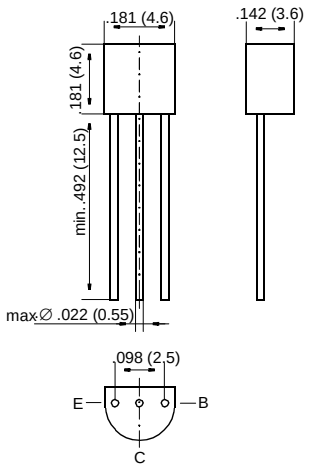
# BF421, BF423

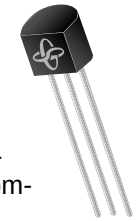
## Small Signal Transistors (PNP)

**TO-92**




*Dimensions in inches and (millimeters)*

### FEATURES



- PNP Silicon Epitaxial Transistors especially suited for application in class-B video output stages of TV receivers and monitors.
- As complementary types, the NPN transistors BF420 and BF422 are recommended.

### MECHANICAL DATA

**Case:** TO-92 Plastic Package
**Weight:** approx. 0.18 g

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | | Symbol | Value | Unit |
|---|---|---|---|---|
| Collector-Base Voltage | **BF421**<br>**BF423** | $-V_{CBO}$<br>$-V_{CBO}$ | 300<br>250 | V<br>V |
| Collector-Emitter Voltage | **BF423** | $-V_{CEO}$ | 250 | V |
| Collector-Emitter Voltage | **BF421** | $-V_{CER}$ | 300 | V |
| Emitter-Base Voltage | | $-V_{EBO}$ | 5 | V |
| Collector Current | | $-I_C$ | 50 | mA |
| Peak Collector Current | | $-I_{CM}$ | 100 | mA |
| Power Dissipation at $T_{amb}$ = 25 °C | | $P_{tot}$ | 830[1)] | mW |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_S$ | –65 to +150 | °C |

[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage **BF421**<br>at $-I_C$ = 100 µA, $I_E$ = 0 **BF423** | $-V_{(BR)CBO}$<br>$-V_{(BR)CBO}$ | 300<br>250 | –<br>– | –<br>– | V<br>V |
| Collector-Emitter Breakdown Voltage **BF423**<br>at $-I_C$ = 10 mA, $I_B$ = 0 | $-V_{(BR)CEO}$ | 250 | – | – | V |
| Collector-Emitter Breakdown Voltage **BF421**<br>at $R_{BE}$ = 2.7 kΩ, at $-I_C$ = 10 mA | $-V_{(BR)CER}$ | 300 | – | – | V |
| Emitter-Base Breakdown Voltage<br>at $-I_E$ = 100 µA, $I_C$ = 0 | $-V_{(BR)EBO}$ | 5 | – | – | V |
| Collector-Base Cutoff Current<br>at $-V_{CB}$ = 200 V, $I_E$ = 0 | $-I_{CBO}$ | – | – | 10 | nA |
| Collector-Emitter Cutoff Current<br>at $R_{BE}$ = 2.7 kΩ, $-V_{CE}$ = 250 V<br>at $R_{BE}$ = 2.7 kΩ, $-V_{CE}$ = 200 V, $T_j$ = 150 °C | <br>$-I_{CER}$<br>$-I_{CER}$ | | | <br>50<br>10 | <br>nA<br>µA |
| Collector Saturation Voltage<br>at $-I_C$ = 30 mA, $-I_B$ = 5 mA | $-V_{CEsat}$ | – | – | 0.8 | V |
| DC Current Gain<br>at $-V_{CE}$ = 20 V, $-I_C$ = 25 mA | $h_{FE}$ | 50 | – | – | – |
| Gain-Bandwidth Product<br>at $-V_{CE}$ = 10 V, $-I_C$ = 10 mA | $f_T$ | 60 | – | – | MHz |
| Feedback Capacitance<br>at $-V_{CE}$ = 30 V, $-I_C$ = 0, f = 1 MHz | $C_{re}$ | – | – | 1.6 | pF |
| Thermal Resistance Junction to Ambient Air | $R_{thJA}$ | – | – | 150[1)] | K/W |

[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.