

HF SILICON PLANAR EPITAXIAL TRANSISTORS

PNP transistors in a plastic package intended for HF and IF applications in radio receivers, especially for mixer stages in AM receivers and IF stages in AM/FM receivers with negative earth.

QUICK REFERENCE DATA

Collector-base voltage (open emitter)		$-V_{CBO}$	max.	40 V
Collector-emitter voltage (open base)		$-V_{CEO}$	max.	40 V
Collector current (DC)		$-I_C$	max.	25 mA
Total power dissipation up to $T_{amb} = 25\text{ }^\circ\text{C}$		P_{tot}	max.	300 mW
Junction temperature		T_j	max.	150 $^\circ\text{C}$
DC current gain				
$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$	BF450:	h_{FE}		62 to 200
	BF451:	h_{FE}		30 to 90
Transition frequency at $f = 100\text{ MHz}$				
$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$		f_T	min.	350 MHz

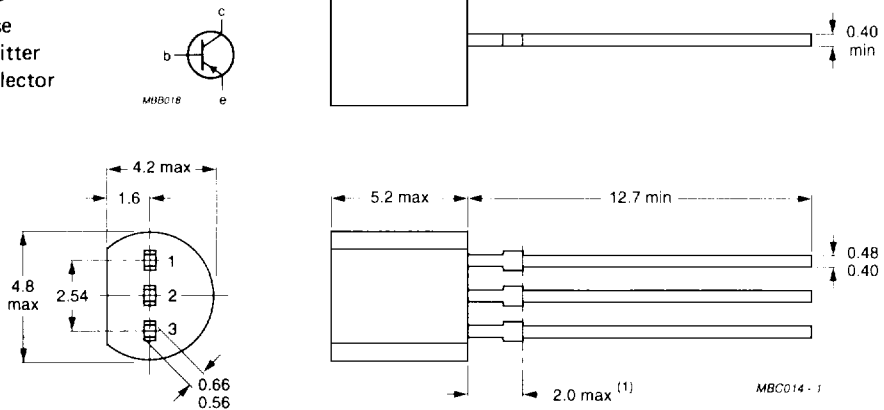
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning:

- 1 = base
- 2 = emitter
- 3 = collector



Note (1) Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Collector-base voltage (open emitter)	$-V_{CBO}$	max.	40 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	40 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	4 V
Collector current (DC)	$-I_C$	max.	25 mA
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot}	max.	300 mW
Storage temperature range	T_{stg}		-65 to $+150\text{ }^{\circ}\text{C}$
Junction temperature	T_j	max.	$150\text{ }^{\circ}\text{C}$

THERMAL RESISTANCE

From junction to ambient in free air	R_{thj-a}	=	420 K/W
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CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise stated

Collector cut-off current

$I_E = 0; -V_{CB} = 30\text{ V}$

$-I_{CBO}$ max. 50 nA

$I_E = 0; -V_{CB} = 30\text{ V}; T_{amb} = 150\text{ }^{\circ}\text{C}$

$-I_{CBO}$ max. 4 μA

Emitter-cut-off current

$I_C = 0; -V_{EB} = 3\text{ V}$

$-I_{EBO}$ max. 100 nA

DC current gain

$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$

BF450

h_{FE} 62 to 200

BF451

h_{FE} 30 to 90

Base-emitter voltage

$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$

$-V_{BE}$ 680 to 780 mV

Transition frequency at $f = 100\text{ MHz}$

$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$

f_T min. 350 MHz

Feedback capacitance at $f = 1\text{ MHz}$

$-I_C = 1\text{ mA}; -V_{CE} = 10\text{ V}$

C_{re} max. 0.55 pF