



SILICON PLANAR TRANSISTOR

N-P-N transistor in a plastic TO-92 envelope. The BF198 has a very low feedback capacitance and is intended for use in the forward gain control stage of the television i.f. amplifier.

QUICK REFERENCE DATA

Collector-base voltage (open emitter)	V_{CBO}	max.	40 V
Collector-emitter voltage (open base)	V_{CEO}	max.	30 V
Collector current (d.c.)	I_C	max.	25 mA
Total power dissipation up to $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot}	max.	500 mW
Junction temperature	T_j	max.	150 $^\circ\text{C}$
Transition frequency at $f = 100\text{ MHz}$ $I_C = 4\text{ mA}; V_{CE} = 10\text{ V}$	f_T	typ.	400 MHz
Feedback capacitance at $f = 10,7\text{ MHz}$ $I_C = 1\text{ mA}; V_{CE} = 10\text{ V}$	$-C_{re}$	typ.	200 fF

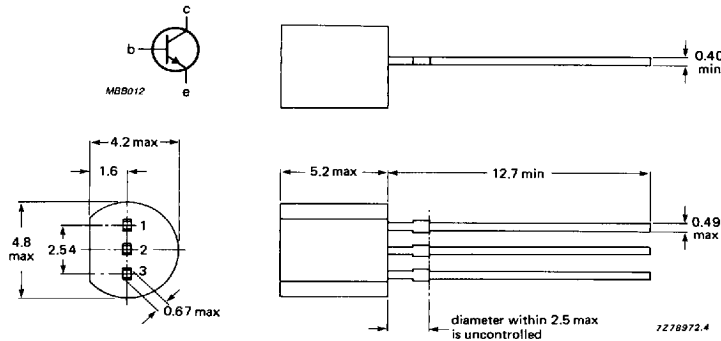
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning

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



Capability approved to CECC NECC-C-002

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.	30	V
Emitter-base voltage (open collector)	V_{EBO}	max.	4	V
Collector current (d. c.)	I_C	max.	25	mA
Collector current (peak value)	I_{CM}	max.	25	mA
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot}	max.	500	mW
Storage temperature range	T_{stg}		-65 to +150	$^{\circ}\text{C}$
Junction temperature	T_j	max.	150	$^{\circ}\text{C}$

THERMAL RESISTANCE

From junction to ambient in free air	$R_{th\ j-a}$	=	0,25	K/mW
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CHARACTERISTICS

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

Base current at about 50 dB gain control

$$I_C = 6\text{ mA}; V_{CE} = 2\text{ V}$$

$$I_B < 270\text{ }\mu\text{A}$$

$$I_C = 15\text{ mA}; V_{CE} = 5\text{ V}$$

$$I_B < 1,5\text{ mA}$$

Base current

$$I_C = 4\text{ mA}; V_{CE} = 10\text{ V}$$

$$I_B \begin{matrix} \text{typ.} & 60 & \mu\text{A} \\ < & 150 & \mu\text{A} \end{matrix}$$

Base-emitter voltage ¹⁾

$$I_C = 4\text{ mA}; V_{CE} = 10\text{ V}$$

$$V_{BE} \begin{matrix} \text{typ.} & 760 & \text{mV} \\ < & 850 & \text{mV} \end{matrix}$$

Feedback capacitance at $f = 10.7\text{ MHz}$

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

$$-C_{re} \text{ typ. } 200\text{ fF}$$

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

$$I_C = 4\text{ mA}; V_{CE} = 10\text{ V}$$

$$f_T \text{ typ. } 400\text{ MHz}$$

¹⁾ V_{BE} decreases by about 1,7 mV/K with increasing temperature.