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 °C	P_{tot}	max.	500 mW
Junction temperature	T_j	max.	150 °C
Transition frequency at f = 100 MHz I_C = 4 mA; V_{CE} = 10 V	f_T	typ.	400 MHz
Feedback capacitance at f = 10,7 MHz I_C = 1 mA; V_{CE} = 10 V	$-C_{re}$	typ.	200 fF

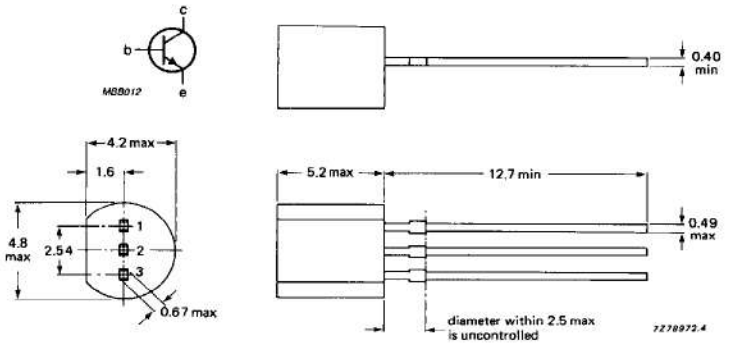
MECHANICAL DATA

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 °C	P_{tot}	max.	500	mW
Storage temperature range	T_{stg}	−65 to +150		°C
Junction temperature	T_j	max.	150	°C

THERMAL RESISTANCE

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

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified

Base current at about 50 dB gain control				
I_C = 6 mA; V_{CE} = 2 V	I_B	<	270	μA
I_C = 15 mA; V_{CE} = 5 V	I_B	<	1,5	mA
Base current				
I_C = 4 mA; V_{CE} = 10 V	I_B	typ.	60	μA
		<	150	μA
Base-emitter voltage [1]				
I_C = 4 mA; V_{CE} = 10 V	V_{BE}	typ.	760	mV
		<	850	mV
Feedback capacitance at f = 10.7 MHz				
I_C = 1 mA; V_{CE} = 10 V	$-C_{re}$	typ.	200	fF
Transition frequency at f = 100 MHz				
I_C = 4 mA; V_{CE} = 10 V	f_T	typ.	400	MHz

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