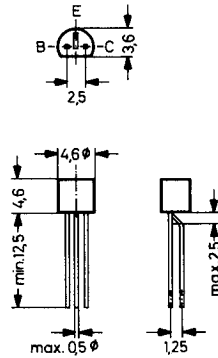


# BF198

## NPN Silicon Planar Transistor

designed for RF applications; low feedback capacitance, especially suited for AGC in emitter-grounded IF stages in TV sets.



Plastic case  $\approx$  JEDEC TO-92  
TO-18 compatible  
The case is impervious to light

Weight approximately 0.18 g  
Dimensions in mm

## Absolute Maximum Ratings

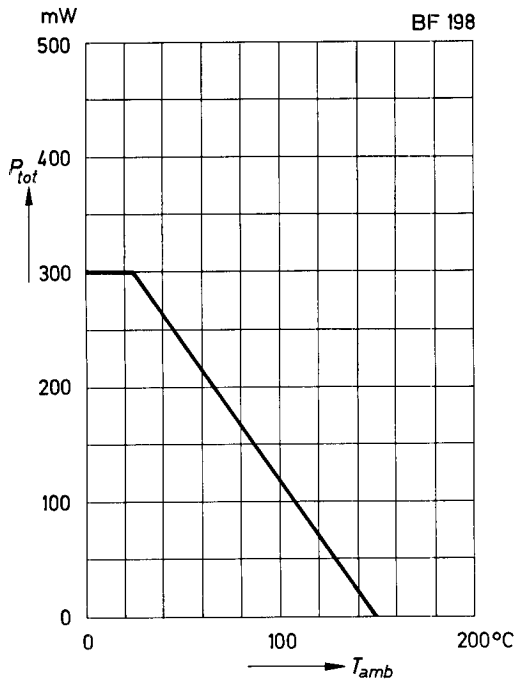
	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	40	V
Collector Emitter Voltage	$V_{CEO}$	30	V
Emitter Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	25	mA
Base Current	$I_B$	3	mA
Power Dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$	$P_{tot}$	300 <sup>1)</sup>	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-55 ... +150	$^\circ\text{C}$
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case			

Characteristics at  $T_{amb} = 25^{\circ}C$ 

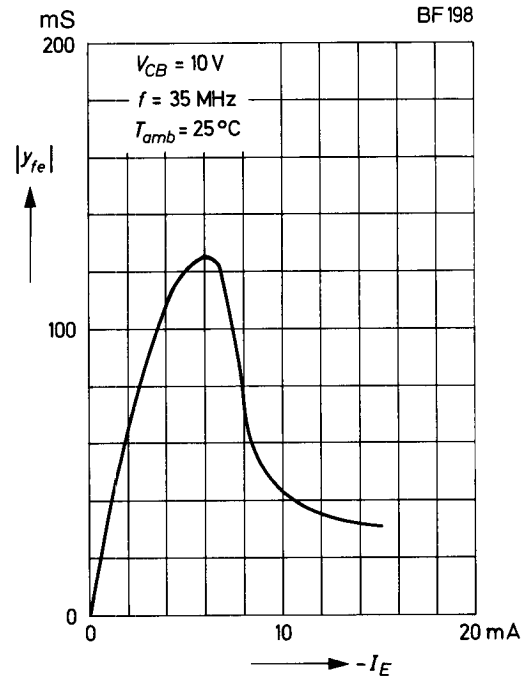
	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 10 V, I_C = 4 mA$	$h_{FE}$	27	80	–	–
Base Emitter Voltage at $V_{CB} = 10 V, I_C = 4 mA$	$V_{BE}$	–	750	–	mV
Collector Cutoff Current at $V_{CB} = 40 V$	$I_{CBO}$	–	–	100	nA
Thermal Resistance Junction to Ambient	$R_{thA}$	–	–	420 <sup>1)</sup>	K/W
Feedback Capacitance at $V_{CB} = 10 V, I_C = 1 mA, f = 1 MHz$	$-C_{re}$	–	0.22	–	pF
Gain Bandwidth Product at $V_{CB} = 10 V, I_C = 4 mA, f = 100 MHz$	$f_T$	–	400	–	MHz
Noise Figure at $V_{CB} = 10 V, I_C = 4 mA, f = 35 MHz, R_G = 100 \Omega$	F	–	3	–	dB
y-Parameters (emitter grounded) at $f = 35 MHz, V_{CB} = 10 V, I_C = 4 mA$					
Input Admittance	$g_{ie}$	–	4.5	–	mS
Output Admittance	$g_{oe}$	–	35	–	$\mu S$
Input Capacitance	$C_{ie}$	–	40	–	pF
Output Capacitance	$C_{oe}$	–	1.3	–	pF
Forward Transconductance	$ y_{fe} $	–	105	–	mS
	$\varphi_{fe}$	–	$-20^{\circ}$	–	
Reverse Transconductance	$ y_{re} $	–	45	–	$\mu S$
	$\varphi_{re}$	–	$-95^{\circ}$	–	
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case					

## Admissible power dissipation versus ambient temperature

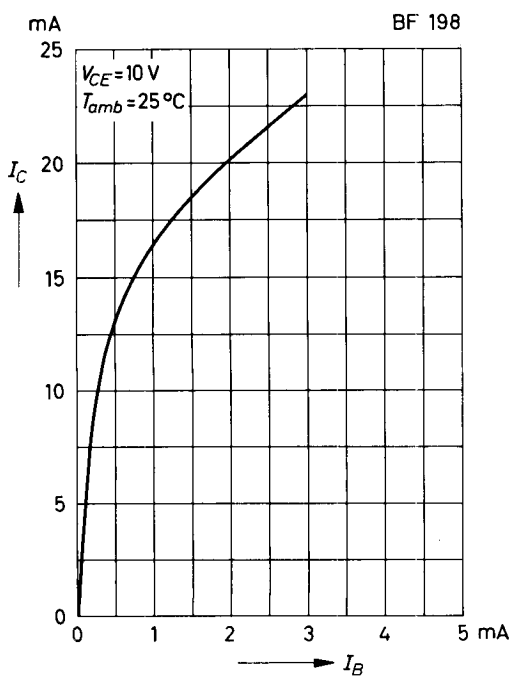
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



## Forward transconductance versus emitter current



## Collector current versus base current



## Gain bandwidth product versus emitter current

