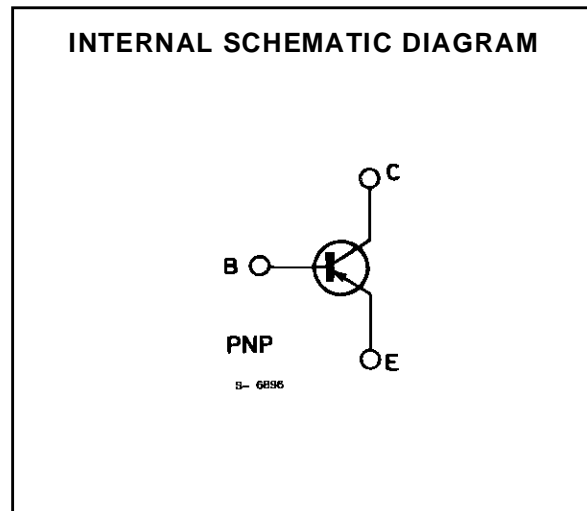
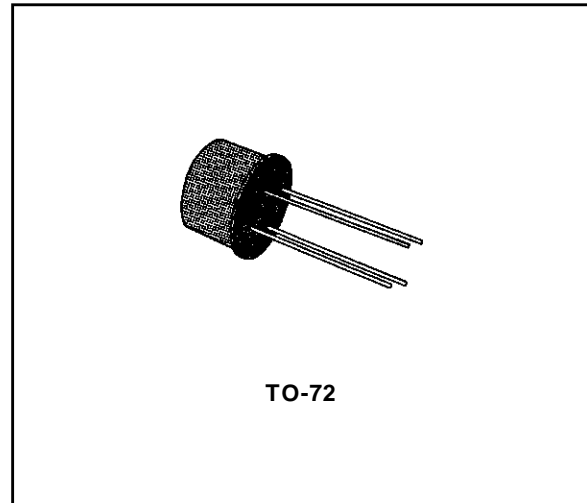


**DESCRIPTION**

The BFR99 is a silicon planar epitaxial PNP transistor in Jedec TO-72 metal case, particularly designed for wide band common-emitter linear amplifier applications up to 1GHz. It features high  $f_T$ , low reverse capacitance, good cross-modulation properties and low noise.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	- 25	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	- 25	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	- 3	V
$I_C$	Collector Current	- 50	mA
$P_{tot}$	Total Power Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	225	mW
		360	mW
$T_{stg}, T_j$	Storage and Junction Temperature	- 55 to 200	$^\circ\text{C}$

## BFR99

### THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction–case	Max	486	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction–ambient	Max	777	°C/W

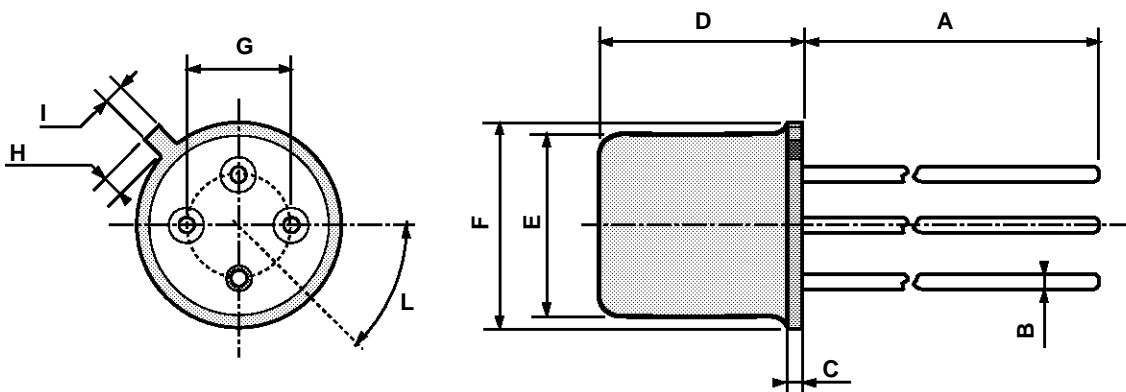
### ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	$V_{CB} = -15\text{ V}$			-100	nA
$V_{(BR)CBO}$	Collector–base Breakdown Voltage ( $I_E = 0$ )	$I_C = -100\text{ }\mu\text{A}$	-25			V
$V_{CEO(sus)}^*$	Collector–emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = -5\text{ mA}$	-25			V
$V_{(BR)EBO}$	Emitter–base Breakdown Voltage ( $I_C = 0$ )	$I_E = -10\text{ }\mu\text{A}$	-3			V
$V_{BE}$	Base–emitter Voltage	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$		-0.75		V
$h_{FE}^*$	DC Current Gain	$I_C = -1\text{ mA}$ $V_{CE} = -10\text{ V}$ $I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $I_C = -20\text{ mA}$ $V_{CE} = -10\text{ V}$	25 20	75 80		
$f_T$	Transition Frequency	$I_C = -10\text{ mA}$ $V_{CE} = -15\text{ V}$ $f = 200\text{ MHz}$		2		GHz
$C_{re}$	Reverse Capacitance	$I_C = 0$ $V_{CE} = -15\text{ V}$ $f = 1\text{ MHz}$		0.4		pF
NF	Noise Figure	$I_C = -3\text{ mA}$ $V_{CE} = -15\text{ V}$ $R_g = 50\text{ }\Omega$ $f = 200\text{ MHz}$ $f = 800\text{ MHz}$ $I_C = -10\text{ mA}$ $V_{CE} = -15\text{ V}$ $R_g = 50\text{ }\Omega$ $f = 200\text{ MHz}$ $f = 800\text{ MHz}$		2.5 3.5 3 4	5	dB dB dB dB

\* Pulsed : pulse duration = 300 $\mu$ s, duty cycle = 1%.

## TO-72 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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