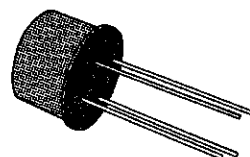


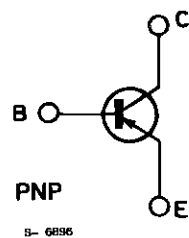
DESCRIPTION

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.



TO-72

INTERNAL SCHEMATIC DIAGRAM



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 $T_{case} \leq 25\text{ }^{\circ}\text{C}$	225 360	mW mW
T_{stg}, T_J	Storage and Junction Temperature	- 55 to 200	$^{\circ}\text{C}$

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

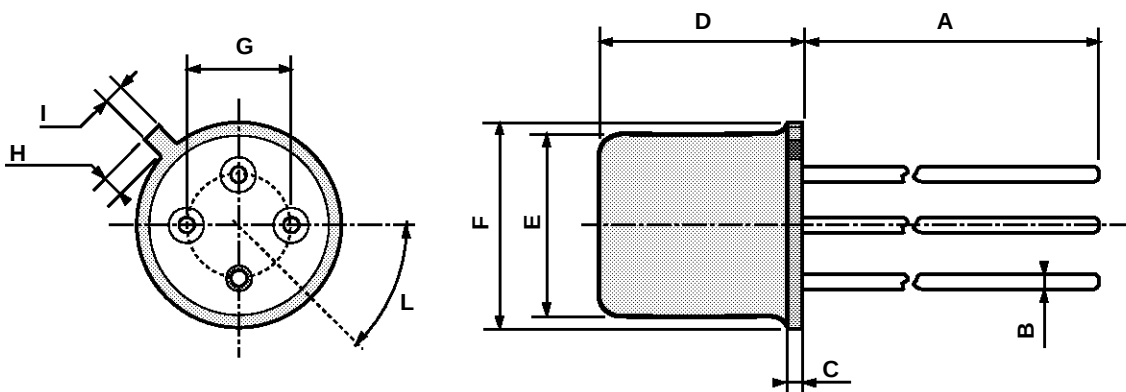
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$ unless otherwise specified)

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 μ 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°		



0016198

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