BF 155

EPITAXIAL PLANAR NPN

UHF AMPLIFIER AND MIXER-OSCILLATOR

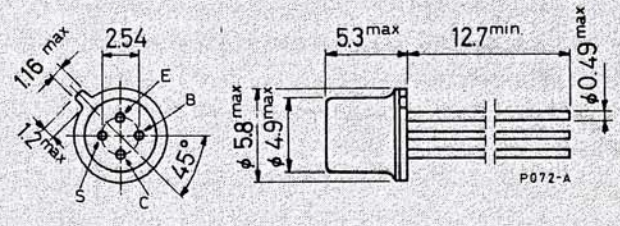
The BF 155 is a silicon planar epitaxial NPN transistor in a TO-72 metal case.
It is specifically designed for UHF amplifier and mixer-oscillator applications up to 900 MHz.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	40	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	40	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	3	V
I_C	Collector current	20	mA
P_{tot}	Total power dissipation at $T_{amb} \leqslant 25°C$	200	mW
	at $T_{case} \leqslant 25°C$	300	mW
T_{stg}, T_j	Storage and junction temperature	-55 to 200	°C

MECHANICAL DATA

Dimensions in mm



(sim. to **TO-72**)

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THERMAL DATA

$R_{th\ j-case}$	Thermal resistance junction-case	max	580	°C/W
$R_{th\ j-amb}$	Thermal resistance junction-ambient	max	875	°C/W

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

Parameter		Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cutoff current (I_E = 0)	V_{CB} = 10V			100	nA
$V_{(BR)CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = 100 μA	40			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage (I_B = 0)	I_C = 5 mA	40			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_E = 100 μA	3			V
V_{BE}	Base-emitter voltage	I_C = 2.5 mA V_{CE} = 12V			0.85	V
h_{FE}	DC current gain	I_C = 2.5 mA V_{CE} = 12V	20	70		–
f_T	Transition frequency	I_C = 2.5 mA V_{CE} = 12V f = 100 MHz		800		MHz
C_{re}	Reverse capacitance	I_C = 2.5 mA V_{CE} = 12V f = 1 MHz		0.4		pF
NF *	Noise figure	I_C = 2.5 mA V_{CB} = 12V R_g = 50Ω f = 800 MHz		7	9	dB
G_{pb} *	Power gain	I_C = 2.5 mA V_{CB} = 12V f = 800 MHz	8	10		dB
f_{max}	Maximum oscillation frequency	I_C = 2.5 mA V_{CB} = 12V		2.5		GHz

* See TEST CIRCUIT

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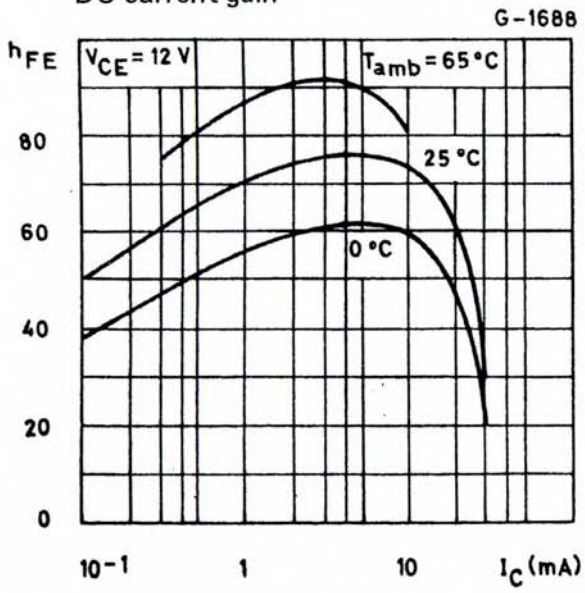
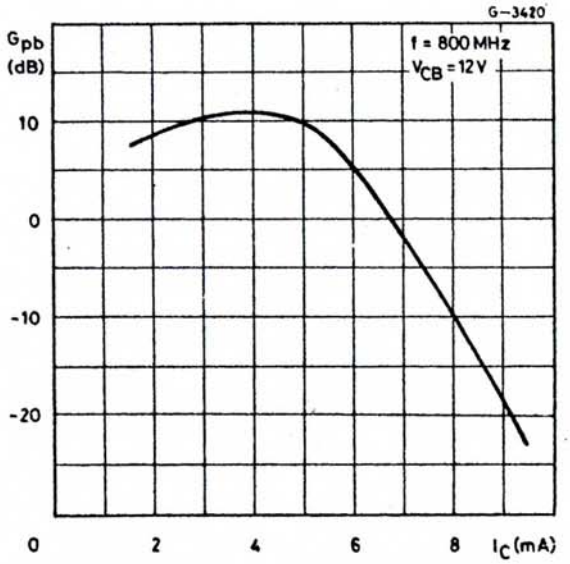
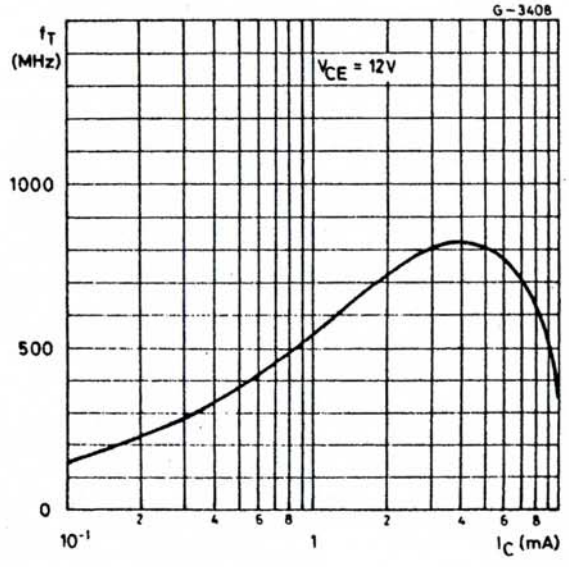
DC current gain



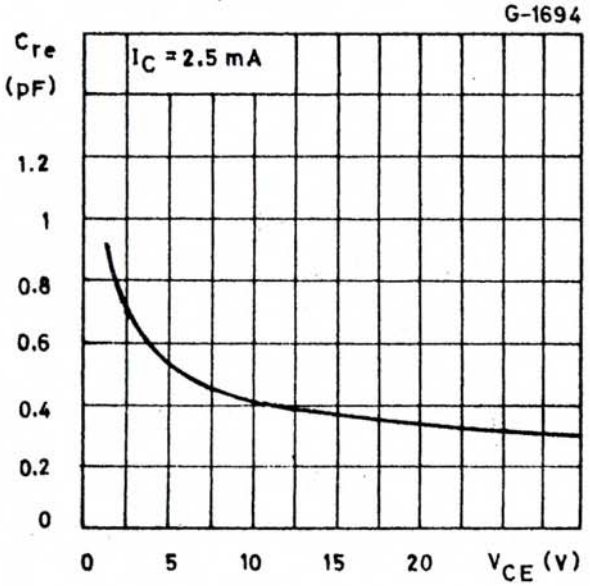
Power gain vs. collector current



Transition frequency



Reverse capacitance



TEST CIRCUIT

Power gain and noise figure