BF 161

SILICON PLANAR NPN

UHF AMPLIFIER, OSCILLATOR AND MIXER

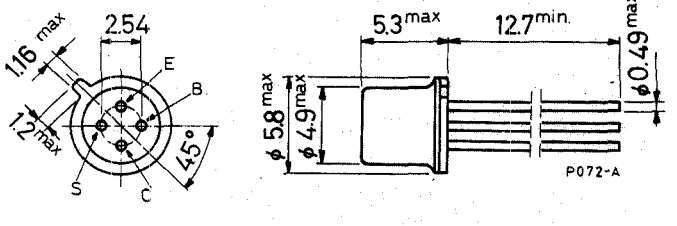
The BF 161 is a silicon planar NPN transistor in a TO-72 metal case, intended for UHF tuner applications.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	50 V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	50 V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	4 V
I_C	Collector current	20 mA
P_{tot}	Total power dissipation at $T_{amb} \leq 25$ °C	175 mW
	at $T_{case} \leq 25$ °C	260 mW
T_{stg}	Storage temperature	-55 to 175 °C
T_j	Junction temperature	175 °C

MECHANICAL DATA

Dimensions in mm



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

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THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	580	°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} = 10 V			100	nA
$V_{(BR)\ CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = 50 μA	50			V
$V_{CEO\ (sus)}$	Collector-emitter sustaining voltage (I_B = 0)	I_C = 5 mA	50			V
$V_{(BR)\ EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_E = 50μA	5			V
V_{BE}	Base-emitter voltage	I_C = 3 mA V_{CE} = 24 V		0.74		V
h_{FE}	DC current gain	I_C = 3 mA V_{CE} = 10 V	20	60		—
f_T	Transition frequency	I_C = 3 mA V_{CE} = 10 V	400	550		MHz
$-C_{re}$	Reverse capacitance	I_C = 3 mA V_{CE} = 10 V f = 1 MHz		0.3	0.45	pF
NF	Noise figure	I_C = 1.5 mA V_{CB} = 24 V f = 800 MHz		6.5		dB
G_{pb}	Power gain	I_C = 1.5 mA V_{CB} = 24 V f = 800 MHz		12		dB
	Collector current for ΔG_{pb} = 30 dB	V_{CC} = 12 V f = 800 MHz		8		mA