

SILICON PLANAR PNP

PRELIMINARY DATA

LOW-NOISE ULTRA LINEAR UHF-VHF AMPLIFIER

The BF 479 is a PNP silicon planar epitaxial transistor in a T-plastic package mainly intended for high current UHF-VHF stages of TV tuners.

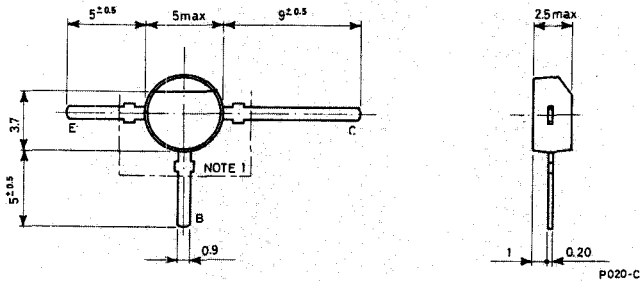
In this application, combined with a PIN diode attenuator circuit, it presents very low noise and very good cross modulation performances up to 900 MHz.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	-30 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 $T_{amb} \leq 45^\circ\text{C}$	170 mW
T_{stg}	Storage temperature	-55 to 150 $^\circ\text{C}$
T_j	Junction temperature	150 $^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm



(1) Within this region the cross section of the leads is uncontrolled

BF 479

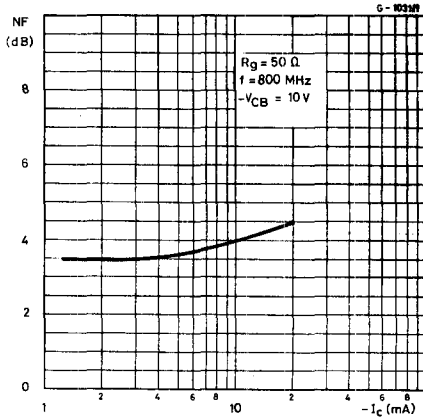
THERMAL DATA

$R_{th\ j-amb}$	Thermal resistance junction-ambient	max	600	°C/W
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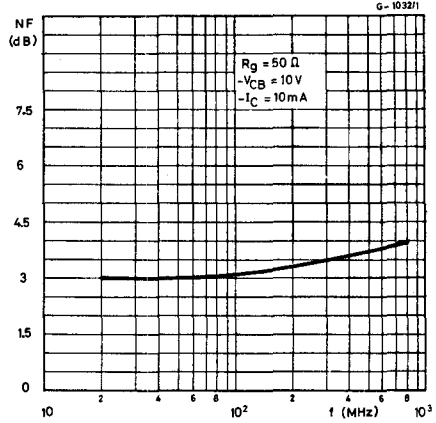
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector cutoff current ($I_E = 0$)	$V_{CB} = -20\text{ V}$			-100	nA
$V_{(BR)\ CBO}$ Collector-base breakdown voltage ($I_E = 0$)	$I_C = -100\ \mu\text{A}$	-30			V
$V_{(BR)\ CEO}$ Collector-emitter breakdown voltage ($I_B = 0$)	$I_C = -5\text{ mA}$	-25			V
$V_{(BR)\ EBO}$ Emitter-base breakdown voltage ($I_C = 0$)	$I_E = -10\ \mu\text{A}$	-3			V
h_{FE} DC current gain	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$	20			—
f_T Transition frequency	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $f = 100\text{ MHz}$		1.4		GHz
C_{CBO} Collector-base capacitance	$I_E = 0$ $V_{CB} = -10\text{ V}$ $f = 1\text{ MHz}$		0.7		pF
NF Noise figure	$V_{CB} = -10\text{ V}$ $R_g = 50\ \Omega$ $I_C = -3\text{ mA}$ $f = 200\text{ MHz}$ $I_C = -10\text{ mA}$ $f = 200\text{ MHz}$ $I_C = -3\text{ mA}$ $f = 800\text{ MHz}$ $I_C = -10\text{ mA}$ $f = 800\text{ MHz}$		2.5 3.3 3.5 4	5.5 6	dB dB dB dB
G_{db} Power gain	$I_C = -10\text{ mA}$ $V_{CB} = -10\text{ V}$ $R_L = 2\text{ k}\Omega$ $f = 800\text{ MHz}$	15	18		dB

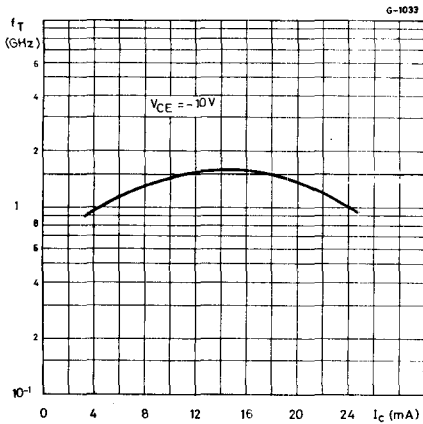
Typical noise figure



Typical noise figure



Typical transition frequency



Typical output voltage (intermodulation -40 dB)

