

## 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.

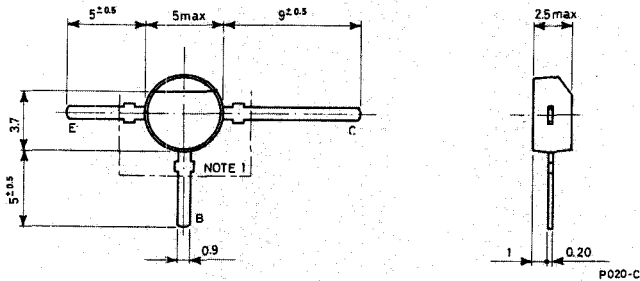
In this application, combined with a PIN diode attenuator circuit, it presents very low noise and very good cross modulation performances up to 900 MHz.

#### 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 $T_{amb} \leq 45$ °C	170 mW
$T_{stg}$	Storage temperature	-55 to 150 °C
$T_j$	Junction temperature	150 °C

#### MECHANICAL DATA

Dimensions in mm



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

# BF 479

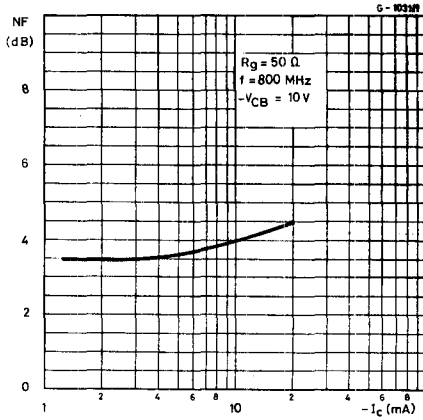
## THERMAL DATA

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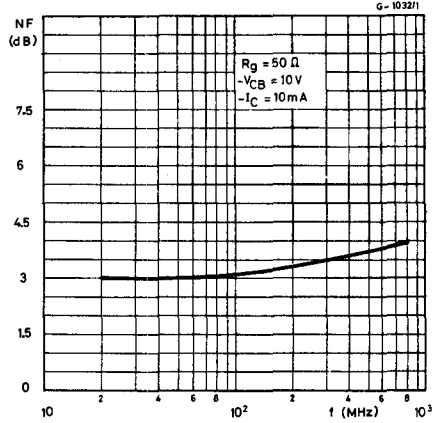
## ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ °C}$ unless otherwise specified)

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

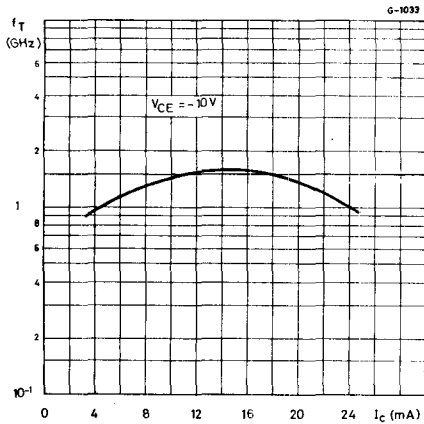
Typical noise figure



Typical noise figure



Typical transition frequency



Typical output voltage (intermodulation -40 dB)

