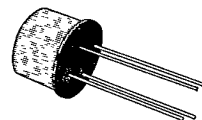
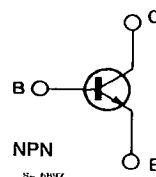


VHF/UHF AMPLIFIER**DESCRIPTION**

The 2N5179 is a silicon planar epitaxial NPN transistor in Jedec TO-72 metal case, intended for low-noise tuned-amplifier and converter applications up to 500 MHz.

**TO-72****INTERNAL SCHEMATIC DIAGRAM****ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	20	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	12	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	2.5	V
I_C	Collector Current	50	mA
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$ at $T_{case} \leq 25^\circ\text{C}$	200 300	mW mW
T_{stg}, T_j	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	583	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	875	$^{\circ}C/W$

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 15\ V$ $V_{CB} = 15\ V \quad T_{amb} = 150\ ^{\circ}C$			20 1	nA μA
$V_{(BR)\ CBO}$	Collector-base Breakdown Voltage ($I_E = 0$)	$I_C = 1\ \mu A$	20			V
$V_{CEO(sus)}$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 3\ mA$	12			V
$V_{(BR)EBO}^*$	Emitter-base Breakdown Voltage ($I_C = 0$)	$I_E = 10\ \mu A$	2.5			V
$V_{CE(sat)}$	Collector-emitter Saturation Voltage	$I_C = 10\ mA \quad I_B = 1\ mA$			0.4	V
$V_{BE(sat)}$	Base-emitter Saturation Voltage	$I_C = 10\ mA \quad I_B = 1\ mA$			1	V
h_{FE}	DC Current Gain	$I_C = 3\ mA \quad V_{CE} = 1\ V$	25	70	250	
h_{fe}	Small Signal Current Gain	$I_C = 2\ mA \quad V_{CE} = 6\ V$ $f = 1\ kHz$	25	90	300	
f_T	Transition Frequency	$I_C = 5\ mA \quad V_{CE} = 6\ V$ $f = 100\ MHz$	0.9	1.4	2	GHz
C_{re}	Reverse Capacitance	$I_C = 0 \quad V_{CE} = 6\ V$ $f = 1\ MHz$		0.7	1	pF
NF	Noise Figure	$I_C = 1.5\ mA \quad V_{CE} = 6\ V$ $f = 200\ MHz \quad R_g = 125\ \Omega$		3	4.5	dB
G_{pe}	Power Gain (neutralized)	$I_C = 5\ mA \quad V_{CE} = 12\ V$ $f = 200\ MHz \quad R_g = 50\ \Omega$	15	21		dB
P_o	Oscillator Power Output	$I_C = 12\ mA \quad V_{CB} = 10\ V$ $f = 500\ MHz$	20			mW
$r_{bb'}C_{b'c}$	Feedback Time Constant	$I_C = 2\ mA \quad V_{CB} = 6\ V$ $f = 31.9\ MHz$	3	7	14	ps