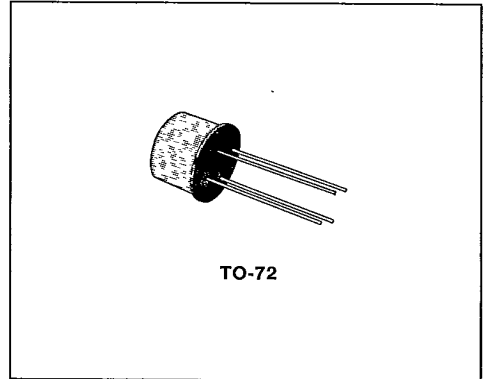
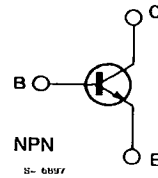


**VHF/UHF AMPLIFIER****DESCRIPTION**

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.

**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	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	875	°C/W

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

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