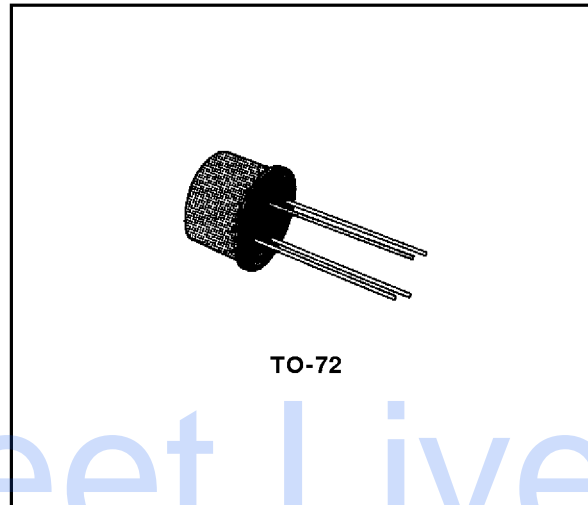


VHF/UHF AMPLIFIER

**DESCRIPTION**

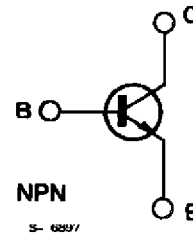
The 2N5179 is a silicon planar epitaxial NPN transistor in Jedec TO-72 metal case, intended for low-noise tuned-amplifier and converter applications up to 500 MHz.



TO-72

Datasheet.Live

**INTERNAL SCHEMATIC DIAGRAM**



NPN  
S- 6887

**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 $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	200 300	mW mW
$T_{stg}, T_j$	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

**THERMAL DATA**

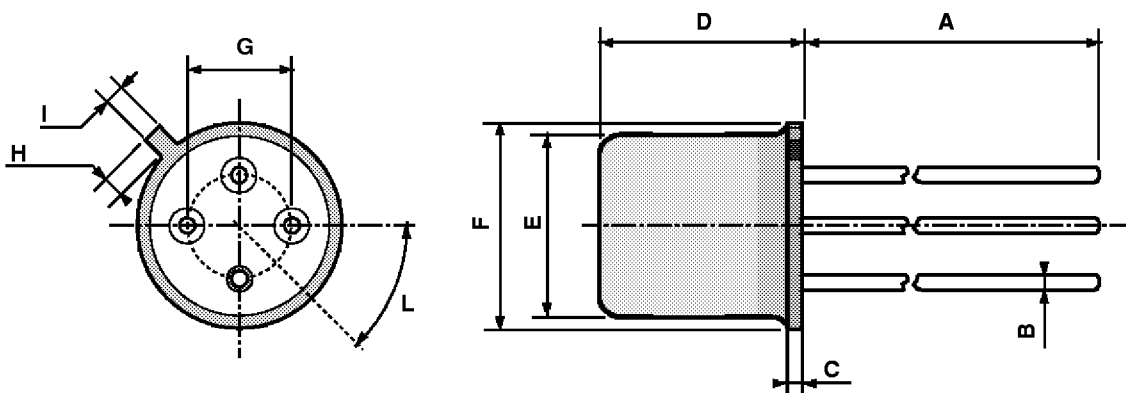
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	583	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	875	°C/W

**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 μA
$V_{(BR)\ CBO}$	Collector-base Breakdown Voltage ( $I_E = 0$ )	$I_C = 1\text{ μA}$	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 ( $I_C = 0$ )	$I_E = 10\text{ μA}$	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	$I_C = 2\text{ mA}$ $V_{CE} = 6\text{ V}$ $f = 1\text{ kHz}$	25	90	300	
$f_T$	Transition Frequency	$I_C = 5\text{ mA}$ $V_{CE} = 6\text{ V}$ $f = 100\text{ MHz}$	0.9	1.4	2	GHz
$C_{re}$	Reverse Capacitance	$I_C = 0$ $V_{CE} = 6\text{ V}$ $f = 1\text{ MHz}$		0.7	1	pF
NF	Noise Figure	$I_C = 1.5\text{ mA}$ $V_{CE} = 6\text{ V}$ $f = 200\text{ MHz}$ $R_g = 125\text{ Ω}$		3	4.5	dB
$G_{pe}$	Power Gain (neutralized)	$I_C = 5\text{ mA}$ $V_{CE} = 12\text{ V}$ $f = 200\text{ MHz}$ $R_g = 50\text{ Ω}$	15	21		dB
$P_o$	Oscillator Power Output	$I_C = 12\text{ mA}$ $V_{CB} = 10\text{ V}$ $f = 500\text{ MHz}$	20			mW
$r_{bb} \cdot C_{b'c}$	Feedback Time Constant	$I_C = 2\text{ mA}$ $V_{CB} = 6\text{ V}$ $f = 31.9\text{ MHz}$	3	7	14	ps

## TO-72 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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