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Manufacturers of World Class Discrete Semiconductors

2N5179

NPN SILICON RF TRANSISTOR

JEDEC TO-72 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5179 type is a Silicon NPN Transistor manufactured by the Epitaxial Planar Process designed for use in VHF/UHF amplifier, oscillator and converter applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNIT
Collector-Base Voltage	V_{CB0}	20	V
Collector-Emitter Voltage	V_{CE0}	12	V
Emitter-Base Voltage	V_{EBO}	2.5	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	200	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	300	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 TO +200	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	0.58	$^\circ\text{C}/\text{mW}$
Thermal Resistance	θ_{JA}	0.87	$^\circ\text{C}/\text{mW}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CB0}	$V_{CB}=15\text{V}$		20	nA
I_{CB0}	$V_{CB}=15\text{V}, T_A=150^\circ\text{C}$		1.0	μA
BV_{CB0}	$I_C=1.0\mu\text{A}$	20		V
BV_{CE0}	$I_C=3.0\text{mA}$	12		V
BV_{EBO}	$I_E=10\mu\text{A}$	2.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.4	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$	25	250	
h_{fe}	$V_{CE}=6.0\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$	25	300	
f_T	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=100\text{MHz}$	900	2000	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		1.0	pF
G_{pe}	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=200\text{MHz}$	15		dB
NF	$V_{CE}=6.0\text{V}, I_C=1.5\text{mA}, f=200\text{MHz}, R_S=50\Omega$		4.5	dB
PO	$V_{CB}=10\text{V}, I_E=12\text{mA}, f=500\text{MHz}$	20		mW
$r_{b'c_c}$	$V_{CB}=6.0\text{V}, I_C=2.0\text{mA}, f=31.9\text{MHz}$	3.0	14	ps