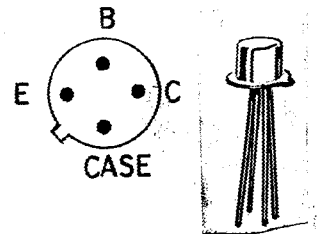




GENERAL DESCRIPTION

2N 5179 is designed for use in high gain, low-noise amplifier, oscillator and mixer circuits. It is also suitable for UHF converter applications. It features high gain-bandwidth product, low noise and low collector-base time constant.

MECHANICAL OUTLINE



MAXIMUM RATINGS

Continuous Collector Current, I_C
Power Dissipation @ $T_A=25^\circ\text{C}$, P_t
Power Dissipation @ $T_C=25^\circ\text{C}$, P_t
Collector-Base Voltage, V_{CB0}
Collector-Emitter Voltage, V_{CEO}
Emitter-Base Voltage, V_{EBO}
Storage Temperature Range, T_{stg}

50mA
200mW
300mW
20V
12V
2.5V
-65°C to + 200°C

ELECTRICAL CHARACTERISTICS @ $T_A=25^\circ\text{C}$ unless otherwise specified

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			20	nA	$V_{CB}=15V$ $I_E=0$
Collector Cutoff Current	I_{CBO}			1.0	uA	$V_{CB}=15V$ $I_E=0$ $T_A=150^\circ\text{C}$
Collector-Base Breakdown Voltage	BV_{CB0}	20			V	$I_C=0.001mA$ $I_E=0$
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	12			V	$I_C=3mA$ $I_B=0$
Emitter Base Breakdown Voltage	BV_{EBO}	2.5			V	$I_E=0.01mA$ $I_C=0$
Collector Emitter Saturation Voltage	$V_{CE(sat)}$			0.4	V	$I_C=10mA$ $I_B=1mA$
Base Emitter Saturation Voltage	$V_{BE(sat)}$			1.0	V	$I_C=10mA$ $I_B=1mA$
Collector Base Capacitance	C_{cb}			1.0	pF	$V_{CB}=10V$ $I_E=0$ $f=0.1$ to $1.0MHz$
Small Signal Current Gain	h_{fe}	25		300		$I_C=2mA$ $V_{CE}=6V$ $f=1kHz$
Collector-Base Time Constant	C_{cb}^r	3.0		14	pS	$I_E=2mA$ $V_{CB}=6V$ $f=31.9MHz$

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PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Transistor Frequency	f_T	900	1400	2000	MHz	$I_C=5mA$ $V_{CE}=6V$ $f=100MHz$
Noise Figure				4.5	dB	$I_C=1.5mA$ $V_{CE}=6V$ $R_S=50ohms$ $f=200MHz$
Common Emitter Amplifier Power Gain	G_{pe}	15			dB	$V_{CE}=6V$ $I_C=5mA$ $f=200MHz$
Power Output	P_{out}	20			mW	$V_{CE}=10V$ $I_E=12mA$ $f \geq 500MHz$