

NPN Bipolar Transistor



2N5179-NRC
TO-72

Low noise tuned amplifiers

Absolute Maximum Ratings

Description	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	2.5	V
Collector Current	I_C	50	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ at $T_c = 25^\circ\text{C}$	P_{tot} -	200 300	mW
Operating and Storage Junction	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$
Temperature Range	-	-	-
Thermal Resistance	-	-	-
Junction to Case	$R_{th(j-c)}$	583	$^\circ\text{C} / \text{W}$
Junction to Ambient	$R_{th(j-a)}$	875	$^\circ\text{C} / \text{W}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$ Unless Otherwise Specified)

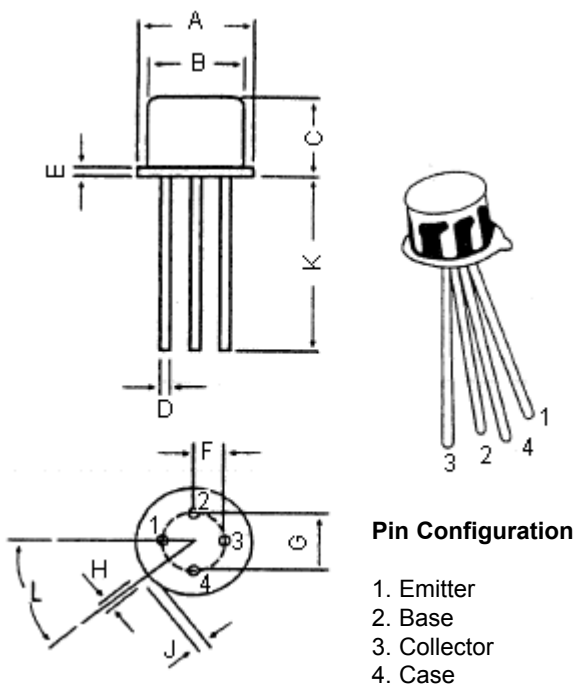
Description	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Cut off Current	I_{CBO}	$V_{CB} = 15 \text{ V}, I_E = 0, T_a = 150^\circ\text{C}$	-	-	20	nA
		$V_{CB} = 15 \text{ V}, I_E = 0$	-	-	1	uA
Collector-Base Voltage	V_{CBO}	$I_C = 1 \text{ uA}, I_E = 0$	20	-	-	V
Collector-Emitter Voltage	$V_{CEO(sus)}$	$I_C = 3 \text{ mA}, I_B = 0$	12	-	-	V
Emitter Base Voltage	V_{EBO}	$I_E = 10 \text{ uA}, I_C = 0$	2.5	-	-	V
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$	-	-	0.4	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$	-	-	1	V
DC Current Gain	hFE	$I_C = 3 \text{ mA}, V_{CE} = 1 \text{ V}$	25	-	250	-
Dynamic Characteristics						
Forward Current Transfer Ratio	hfe	$I_C = 2 \text{ mA}, V_{CE} = 6 \text{ V}, f = 1 \text{ kHz}$	25	-	300	-
	ft	$I_C = 5 \text{ mA}, V_{CE} = 6 \text{ V}, f = 100 \text{ MHz}$	900	-	2,000	MHz

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Electrical Characteristics ($T_a = 25^\circ\text{C}$ Unless Otherwise Specified)

Description	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Out-Put Capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	-	-	1	pF
In-Put Capacitance	C_{ib}	$V_{EB} = 0.5\text{ V}, I_C = 0, f = 1\text{ MHz}$	-	-	2	pF
Collector Base Time Constant	$r_{bb'} C_{b'c}$	$I_C = 2\text{ mA}, V_{CE} = V, f = 31.9\text{ MHz}$	3	-	14	ps
Small-Signal Power Gain	G_p	$I_C = 5\text{ mA}, V_{CE} = 12\text{ V}, f = 200\text{ MHz}$	15	-	-	dB
Common Emitter Oscillator Power Output	P_o	$I_E = -12\text{ mA}, V_{CB} = 10\text{ V}, f = >500\text{ MHz}$	20	-	-	mW

TO-72 Metal Can Package



Diameter	Min.	Max.
A	5.24	5.84
B	4.52	4.95
C	4.31	5.33
D	0.4	0.53
E	-	0.76
F	1.14	1.39
G	2.28	2.97
H	0.91	1.17
J	0.71	1.22
K	12.7	-
L	12°	48°

Dimensions : Millimetres

Part Number Table

Description	Part Number
NPN Bipolar Transistor	2N5179-NRC

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