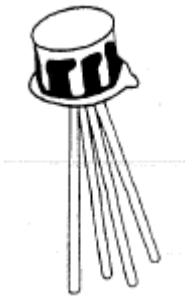
NPN Bipolar Transistor



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°C at T_c = 25°C	P_{tot} -	200 300	mW
Operating and Storage Junction	T_j, T_{stg}	-65 to +200	°C
Temperature Range	-	-	-
Thermal Resistance	-	-	-
Junction to Case	$R_{th\ (j-c)}$	583	°C / W
Junction to Ambient	$R_{th\ (j-a)}$	875	°C / W

Electrical Characteristics (T_a = 25°C Unless Otherwise Specified)

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

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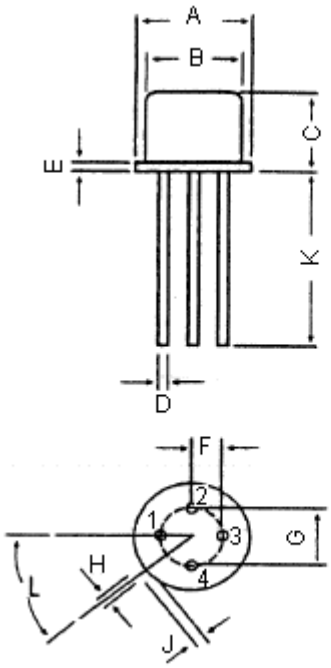
Electrical Characteristics (T_a = 25°C Unless Otherwise Specified)

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

TO-72 Metal Can Package



Pin Configuration

1. Emitter
2. Base
3. Collector
4. Case

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