

New Jersey Semi-Conductor Products, Inc.

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2N5081 N.P.N. Silicon High Frequency

- HIGH FREQUENCY -- $f_T = 500$ MHz (MIN) AT 10 mA
- LOW CAPACITANCE -- $C_{obo} = 4.0$ pF (MAX) AT 5.0 V

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

- Storage Temperature
- Operating Junction Temperature
- Lead Temperature (Soldering, 60 second time limit)

-65°C to +200°C
200°C Maximum
300°C Maximum

Maximum Power Dissipation (Notes 2 and 3)

- Total Dissipation at 25°C Case Temperature
- at 100°C Case Temperature
- at 25°C Ambient Temperature

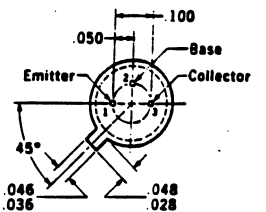
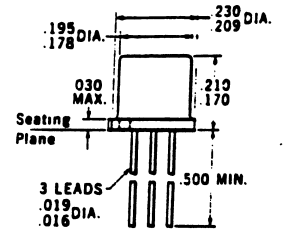
1.2 Watts
0.68 Watt
0.36 Watt

Maximum Voltages and Current

- V_{CBO} Collector to Base Voltage
- V_{CES} Collector to Emitter Voltage
- V_{CEO} Collector to Emitter Voltage (Note 4)
- V_{EBO} Emitter to Base Voltage
- I_C Collector Current (10 μ s Pulse)
- I_C DC Collector Current

40 Volts
40 Volts
50 Volts
4.5 Volts
500 mA
200 mA

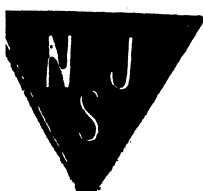
PHYSICAL DIMENSIONS in accordance with JEDEC (TO-18) outline



NOTES: All dimensions in inches.
Leads are gold-plated.
Collector internally connected to case.
Package weight is 0.44 gram.

ELECTRICAL CHARACTERISTICS

Characteristics	Symbols and Units	LIMITS		TEST CONDITIONS						
		Type	Frequency	DC Collector-to-Emitter Voltage V_{CE}	DC Collector-to-Base Voltage V_{CB}	DC Emitter-to-Base Voltage V_{EB}	DC Emitter Current I_E	DC Collector Current I_C	DC Base Current I_B	
		Min.	Max.	MHz	V	V	V	mA	mA	mA
Collector-Cutoff Current	I_{CBO} μ A	-	30			20		0		
Collector-Cutoff Current	I_{CES} μ A	-	0.4			20		0		
Collector-to-Base Breakdown Voltage	V_{VCBO} V	40	-					0	0.01	
Collector-to-Emitter Breakdown Voltage	V_{VCES} V	40	-					0	0.01	
Emitter-to-Base Breakdown Voltage	V_{VEBO} V	4.5	-					0.01	0	
Collector-to-Emitter Sustaining Voltage (Base open)	$V_{CE(sus)}$ V	50	-						10	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$ V	-	0.2						10	1
		-	0.25 0.5						30 100	3 10
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$ V	-	0.85						10	1
		-	1.15 1.6						30 100	3 10
Static Forward Current-Transfer Ratio	h_{FE}	100	-			0.35				10
		30	-			0.4				30
		20	-			1				100



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