

# New Jersey Semi-Conductor Products, Inc.

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## SILICON N-P-N HIGH-SPEED TRANSISTOR

2N3261

### Maximum Ratings, Absolute-Maximum Values:

COLLECTOR TO BASE VOLTAGE, VCBO . . . . . 40 max. volts  
COLLECTOR-TO-EMITTER VOLTAGE, VCEO . . . . . 15 max. volts  
EMITTER-TO-BASE VOLTAGE, VEB0 . . . . . 6 max. volts  
COLLECTOR CURRENT, IC . . . . . 500 max. ma  
TRANSISTOR DISSIPATION, PT:

For case      { up to 25°C . . . . . 1 max. watt  
temperatures<sup>a</sup>    { above 25°C . . . . . derate at 6.7 mW/°C  
For free-air    { up to 25°C . . . . . 0.3 max. watt  
temperatures   { above 25°C . . . . . derate at 2 mW/°C

### TEMPERATURE RANGE:

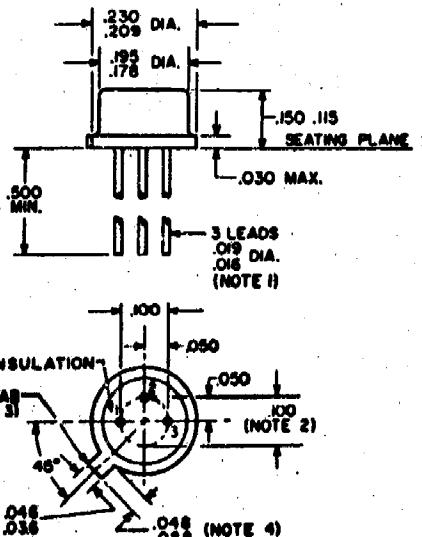
Storage . . . . . -65 to +200°C  
Operating . . . . . -65 to +175°C

### LEAD TEMPERATURE (During soldering):

At distances  $\geq 1/16"$  from seating  
surface for 10 seconds max. . . . . 230 max. °C

<sup>a</sup>Measured at center of seating surface.

### DIMENSIONAL OUTLINE JEDEC No. TO-52



Dimensions in Inches

NOTE 1: THE SPECIFIED LEAD DIAMETER APPLIES IN THE ZONE BETWEEN 0.050 INCH AND 0.250 INCH FROM THE SEATING PLANE. BETWEEN 0.250 INCH AND 0.500 INCH OF THE LEAD, A MAXIMUM DIAMETER OF 0.021 INCH IS HELD. OUTSIDE THESE ZONES, THE LEAD DIAMETER IS NOT CONTROLLED.

NOTE 2: LEADS HAVING MAXIMUM DIAMETER (0.019 INCH) MEASURED IN GAUGING PLANE 0.054 INCH + 0.001 INCH - 0.000 INCH BELOW THE SEATING PLANE OF THE DEVICE SHALL BE WITHIN 0.007 INCH OF THEIR TRUE LOCATIONS RELATIVE TO A MAXIMUM-WIDTH TAB.

NOTE 3: INDEX TAB FOR VISUAL ORIENTATION ONLY.

NOTE 4: MEASURED FROM MAXIMUM DIAMETER OF ACTUAL DEVICE.

## ELECTRICAL CHARACTERISTICS

Characteristics	Symbols	TEST CONDITIONS								LIMITS			Units	
		Free-Air Temperature T <sub>FA</sub>	Frequen- cy f	DC Collector-to-Emitter Voltage V <sub>CE</sub>	DC Collector-to-Base Voltage V <sub>CB</sub>	DC Emitter-to-Base Voltage V <sub>EB</sub>	DC Emitter Current I <sub>E</sub>	DC Collector Current I <sub>C</sub>	DC Base Current I <sub>B</sub>	Type 2N3261				
		°C	M <sub>c</sub>	volts	volts	volts	ma	ma	ma	Min.	Typ.	Max.		
Collector-Cut-off Current	I <sub>CEV</sub>	25 150		15 15		0 0				- -	5 6.5	25 25	no $\mu$ a	
Base-Cutoff Current	I <sub>BEV</sub>	25		15		0				-	-5	-25	no	
Collector-to-Base Break-down Voltage	BV <sub>CBO</sub>	25					0	0.01		40	-	-	volts	
Collector-to-Emitter Break-down Voltage	BV <sub>CEO</sub>	25						10	0	15	-	-	volts	
Emitter-to-Base Break-down Voltage	BV <sub>EBO</sub>	25					0.01	0		6	-	-	volts	
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	25						100	10	-	0.28	0.35	volts	
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	25						100	10	0.8	0.93	1.1	volts	
Static Forward Current-Transfer Ratio	h <sub>FE</sub>	25 25 25 -55		1 1 1 1				10 100 200 10		40 30 20 20	60 50 35 35	150 - - -		
Magnitude of Small-Signal Forward Current-Transfer Ratio	h <sub>fe</sub>	25 25	100 100	1 10				100 10		3 6	4.4 8.3	-		