

# New Jersey Semi-Conductor Products, Inc.

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## 2N3055

NPN SILICON POWER TRANSISTOR

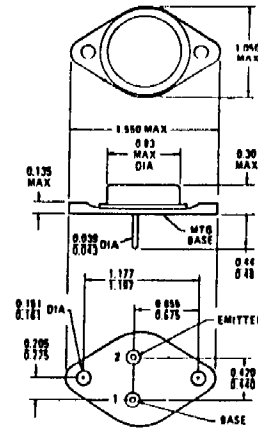
### \*MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CE0}$	60	Vdc
Collector-Emitter Voltage	$V_{CER}$	70	Vdc
Collector-Base Voltage	$V_{CB}$	100	Vdc
Emitter-Base Voltage	$V_{EB}$	7.0	Vdc
Collector Current - Continuous	$I_C$	15	A dc
Base Current - Continuous	$I_B$	7.0	A dc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	115 0.657	Watts W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$\theta_{JC}$	1.52	$^\circ\text{C/W}$

\*Indicates JEDEC Registered Data.



TO-3

Collector Connected to Case

### \*ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Sustaining Voltage (Note 1) ( $I_C = 200 \text{ mAdc}, I_B = 0$ )	$V_{CE0(sus)}$	60	-	Vdc
Collector-Emitter Breakdown Voltage (Note 1) ( $I_C = 200 \text{ mAdc}, R_{BE} = 100 \text{ Ohms}$ )	$BV_{CER}$	70	-	Vdc
Collector-Emitter Current ( $V_{CE} = 30 \text{ Vdc}, I_B = 0$ )	$I_{CE0}$	-	0.7	mAdc
Collector Cutoff Current ( $V_{CE} = 100 \text{ Vdc}, V_{EB(off)} = 1.5 \text{ Vdc}$ ) ( $V_{CE} = 100 \text{ Vdc}, V_{L(off)} = 1.5 \text{ Vdc}, T_C = 150^\circ\text{C}$ )	$I_{CEX}$	-	5.0 30	mAdc
Emitter-Base Cutoff Current ( $V_{EB} = 7.0 \text{ Vdc}, I_C = 0$ )	$I_{EBO}$	-	5.0	mAdc
<b>ON CHARACTERISTICS</b>				
DC Current Gain (Note 1) ( $I_C = 4.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ ) ( $I_C = 10 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ )	$h_{FE}$	20 5.0	70 -	-
Collector-Emitter Saturation Voltage (Note 1) ( $I_C = 4.0 \text{ Adc}, I_B = 0.4 \text{ Adc}$ ) ( $I_C = 10 \text{ Adc}, I_B = 3.3 \text{ Adc}$ )	$V_{CE(sat)}$	-	1.1 8.0	Vdc
Base-Emitter Voltage (Note 1) ( $I_C = 4.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ )	$V_{BE}$	-	1.8	Vdc
<b>DYNAMIC CHARACTERISTICS</b>				
Small Signal Current Gain (Note 1) ( $V_{CE} = 4.0 \text{ Vdc}, I_C = 1.0 \text{ Adc}, f = 1.0 \text{ kHz}$ )	$h_{fe}$	15	120	-
Small Signal Current Gain Cutoff Frequency ( $V_{CE} = 4.0 \text{ Vdc}, I_C = 1.0 \text{ Adc}, f = 1.0 \text{ kHz}$ )	$f_{\alpha e}$	10	-	kHz

Note 1: Pulse Width  $\approx 300 \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

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