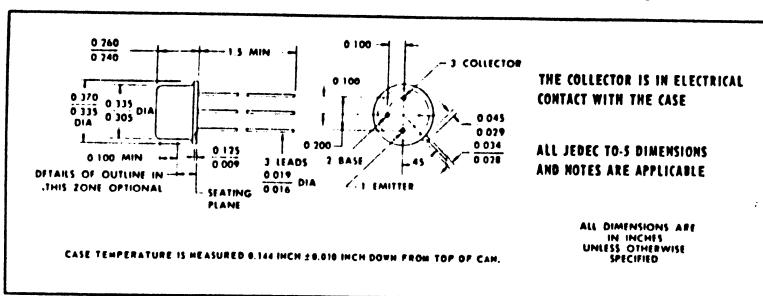


New Jersey Semi-Conductor Products, Inc.

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2N5333
P-N-P SILICON POWER TRANSISTOR

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*absolute maximum ratings at 25°C case temperature (unless otherwise noted)

Collector-Base Voltage	-100 V
Collector-Emitter Voltage (See Note 1)	-80 V
Emitter-Base Voltage	-6 V
Continuous Collector Current	-2 A
Peak Collector Current (See Note 2)	-5 A
Continuous Base Current	-1 A
Continuous Emitter Current	-3 A
Safe Operating Region at (or below) 100°C Case Temperature	See Figure 7
Continuous Device Dissipation at (or below) 100°C Case Temperature (See Note 3)	15 W
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 4)	1 W
Operating Collector Junction Temperature Range	-65°C to 200°C
Storage Temperature Range	-65°C to 200°C
Lead Temperature $\frac{1}{16}$ Inch from Case for 10 Seconds	260°C

NOTES: 1. This value applies when the base-emitter diode is open-circuited.

2. This value applies for $I_p \leq 0.3$ ms, duty cycle $\leq 10\%$.

3. Derate linearly to 200°C case temperature at the rate of 0.15 W/deg.

4. Derate linearly to 200°C free-air temperature at the rate of 5.72 mW/deg.

* TYPICAL registered data

*electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER	TEST CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$ Collector-Emitter Breakdown Voltage	$I_C = -30$ mA, $I_B = 0$, See Note 5	-80		V
I_{CEO} Collector Cutoff Current	$V_{CE} = -40$ V, $I_B = 0$		-50	μ A
I_{CES} Collector Cutoff Current	$V_{CE} = -90$ V, $V_{BE} = 0$	-10		μ A
	$V_{CE} = -50$ V, $V_{BE} = 0$, $T_C = 150^\circ$ C		-500	μ A
I_{EB0} Emitter Cutoff Current	$V_{EB} = -4$ V, $I_C = 0$	-1		μ A
	$V_{EB} = -6$ V, $I_C = 0$		-100	μ A
h_{FE} Static Forward Current Transfer Ratio	$V_{CE} = -4$ V, $I_C = -1$ A, See Notes 5 and 6	30	120	
	$V_{CE} = -4$ V, $I_C = -2$ A, See Notes 5 and 6	10		
V_{BE} Base-Emitter Voltage	$V_{CE} = -4$ V, $I_C = -2$ A, See Notes 5 and 6	-1.5		V
$V_{CE(sat)}$ Collector-Emitter Saturation Voltage	$I_B = -0.1$ A, $I_C = -1$ A, See Notes 5 and 6	-0.45		V
	$I_B = -0.4$ A, $I_C = -2$ A, See Notes 5 and 6	-1		
h_{fe} Small-Signal Common-Emitter Forward Current Transfer Ratio	$V_{CE} = -10$ V, $I_C = -1$ A, $f = 1$ kHz	30		
$ h_{fe} $ Small-Signal Common-Emitter Forward Current Transfer Ratio	$V_{CE} = -10$ V, $I_C = -1$ A, $f = 15$ MHz	2		

NOTES: 5. These parameters must be measured using pulse techniques. $I_p = 300$ μ s, duty cycle $\leq 2\%$.

6. These parameters are measured with voltage-sensing contacts separate from the current-carrying contacts.