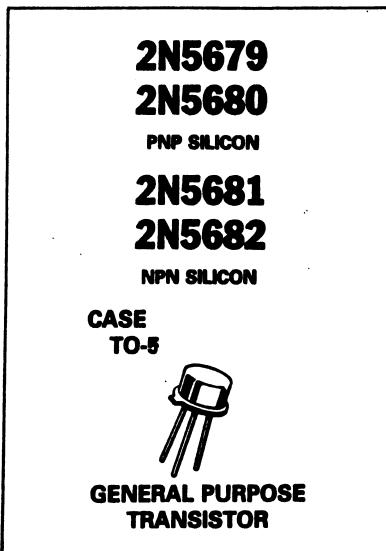


# New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.  
SPRINGFIELD, NEW JERSEY 07081  
U.S.A.

TELEPHONE: (201) 376-2922  
(212) 227-6005  
FAX: (201) 376-8960



## MAXIMUM RATINGS

Rating	Symbol	2N5679 2N5681	2N5680 2N5682	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	100	120	Vdc
Collector-Base Voltage	V <sub>CBO</sub>	100	120	Vdc
Emitter-Base Voltage	V <sub>EBO</sub>		4.0	Vdc
Base Current	I <sub>B</sub>		0.5	Adc
Collector Current — Continuous	I <sub>C</sub>		1.0	Adc
Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>		1.0 5.7	Watt mW/C
Total Device Dissipation @ T <sub>C</sub> = 25°C Derate above 25°C	P <sub>D</sub>		10 57	Watts mW/C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>Stg</sub>	-65 to +200		°C

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	17.5	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	175	°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Sustaining Voltage (I <sub>C</sub> = 10 mAdc, I <sub>B</sub> = 0)	V <sub>CEO(sus)</sub>	100	—	Vdc
		120	—	
Collector Cutoff Current (V <sub>CE</sub> = 70 Vdc, I <sub>B</sub> = 0) (V <sub>CE</sub> = 80 Vdc, I <sub>B</sub> = 0)	I <sub>CEO</sub>	—	10	μAdc
		—	10	
Collector Cutoff Current (V <sub>CE</sub> = 100 Vdc, V <sub>EB</sub> = 1.5 Vdc) (V <sub>CE</sub> = 120 Vdc, V <sub>EB</sub> = 1.5 Vdc)	I <sub>CEX</sub>	—	1.0	μAdc
		—	1.0	mAdc
(V <sub>CE</sub> = 100 Vdc, V <sub>EB</sub> = 1.5 Vdc, T <sub>C</sub> = 150°C) (V <sub>CE</sub> = 120 Vdc, V <sub>EB</sub> = 1.5 Vdc, T <sub>C</sub> = 150°C)	2N5679, 2N5681 2N5680, 2N5682	—	1.0	
Collector Cutoff Current (V <sub>CB</sub> = 100 Vdc, I <sub>E</sub> = 0) (V <sub>CB</sub> = 120 Vdc, I <sub>E</sub> = 0)	I <sub>CBO</sub>	—	1.0	μAdc
		—	1.0	
Emitter Cutoff Current (V <sub>EB</sub> = 4.0 Vdc, I <sub>C</sub> = 0)	I <sub>EBO</sub>	—	1.0	μAdc
<b>ON CHARACTERISTICS</b>				
DC Current Gain (I <sub>C</sub> = 250 mAdc, V <sub>CE</sub> = 2.0 Vdc) (I <sub>C</sub> = 1.0 Adc, V <sub>CE</sub> = 2.0 Vdc)	h <sub>FE</sub>	40 5.0	150	—
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 250 mAdc, I <sub>B</sub> = 25 mAdc) (I <sub>C</sub> = 500 mAdc, I <sub>B</sub> = 50 mAdc) (I <sub>C</sub> = 1.0 Adc, I <sub>B</sub> = 200 mAdc)	V <sub>CE(sat)</sub>	—	0.6 1.0 2.0	Vdc
Base-Emitter Saturation Voltage (I <sub>C</sub> = 250 mAdc, V <sub>CE</sub> = 2.0 Vdc)	V <sub>BE(sat)</sub>	—	1.0	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
Current-Gain — Bandwidth Product (I <sub>C</sub> = 100 mAdc, V <sub>CE</sub> = 10 Vdc, f = 10 MHz)	f <sub>T</sub>	30	—	—
Output Capacitance (V <sub>CB</sub> = 20 Vdc, I <sub>E</sub> = 0, f = 1.0 MHz)	C <sub>obo</sub>	—	50	pF
Small-Signal Current Gain (I <sub>C</sub> = 0.2 Adc, V <sub>CE</sub> = 1.5 Vdc, f = 1.0 kHz)	h <sub>fe</sub>	40	—	—



Quality Semi-Conductors