

# New Jersey Semi-Conductor Products, Inc.

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

TELEPHONE: (973) 376-2922  
(212) 227-6005  
FAX: (973) 376-8960

## 2N5879, 2N5880, PNP 2N5881, 2N5882 NPN

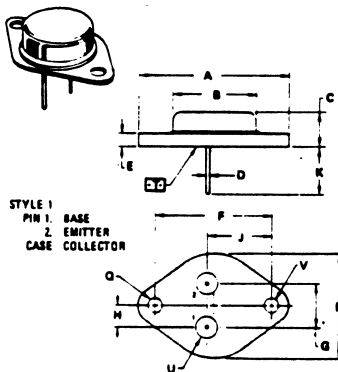
15 AMPERE  
COMPLEMENTARY SILICON  
POWER TRANSISTORS

60-80 VOLTS  
160 WATTS

COMPLEMENTARY SILICON  
HIGH-POWER TRANSISTORS

... designed for general-purpose power amplifier and switching applications.

- Collector-Emitter Sustaining Voltage –  
VCE(sus) = 60 Vdc (Min) – 2N5879, 2N5881  
= 80 Vdc (Min) – 2N5880, 2N5882
- DC Current Gain –  
hFE = 20 (Min) @ IC = 6.0 Adc
- Low Collector – Emitter Saturation Voltage –  
VCE(sat) = 1.0 Vdc (Max) @ IC = 7.0 Adc
- High Current – Gain-Bandwidth Product –  
fT = 4.0 MHz (Min) @ IC = 1.0 Adc
- Recommended for New Circuit Designs



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	39.37	-	1.550
B	-	21.08	-	0.830
C	6.35	7.62	0.250	0.300
D	0.99	1.09	0.039	0.043
E	-	3.43	-	0.135
F	29.90	30.40	1.177	1.197
G	10.67	11.18	0.420	0.440
H	5.33	5.59	0.210	0.220
J	16.64	17.15	0.655	0.675
K	11.18	12.19	0.440	0.480
Q	3.84	4.09	0.151	0.161
R	-	28.67	-	1.050

NOTE:  
1. DIM "Q" IS DIA. Collector connected to case.

### \*MAXIMUM RATINGS

Rating	Symbol	2N5879 2N5881	2N5880 2N5882	Unit
Collector-Emitter Voltage	VCEO	60	80	Vdc
Collector-Base Voltage	VCB	60	80	Vdc
Emitter-Base Voltage	VEB	5.0		Vdc
Collector Current – Continuous Peak	IC	15 30		Adc
Base Current	IB	5.0		Adc
Total Device Dissipation @ TC = 25°C Derate above 25°C	PD	160 0.915		Watts W/°C
Operating and Storage Junction Temperature Range	TJ, Tstg	-65 to +200		°C

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θJC	1.1	°C/W

\*Indicates JEDEC registered data. Limits and conditions differ on some parameters and re-registration reflecting these changes has been requested. All above values meet or exceed present JEDEC registered data.

### \*ELECTRICAL CHARACTERISTICS (TC = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Sustaining Voltage (1) (IC = 200 mAdc, IB = 0)	VCEO(sus)	60 80	-	Vdc
Collector Cutoff Current (VCE = 30 Vdc, IB = 0)	ICEO	-	1.0	mA
Collector Cutoff Current (VCE = 40 Vdc, IB = 0)		-	1.0	mA
Collector Cutoff Current (VCE = 60 Vdc, VBE(off) = 1.5 Vdc)	ICEX	-	0.5	mA
(VCE = 80 Vdc, VBE(off) = 1.5 Vdc)		-	0.5	mA
(VCE = 60 Vdc, VBE(off) = 1.5 Vdc, TC = 150°C)		-	5.0	mA
(VCE = 80 Vdc, VBE(off) = 1.5 Vdc, TC = 150°C)		-	5.0	mA
Collector Cutoff Current (VCB = 60 Vdc, IE = 0)	ICBO	-	0.5	mA
(VCB = 80 Vdc, IE = 0)		-	0.5	mA
Emitter Cutoff Current (VEB = 5.0 Vdc, IC = 0)	IEBO	-	1.0	mA
<b>ON CHARACTERISTICS</b>				
DC Current Gain (1) (IC = 2.0 Adc, VCE = 4.0 Vdc)	hFE	35	-	
(IC = 6.0 Adc, VCE = 4.0 Vdc)		20	100	
(IC = 15 Adc, VCE = 4.0 Vdc)		4.0	-	
Collector-Emitter Saturation Voltage (1) (IC = 7.0 Adc, IB = 0.7 Adc)	VCE(sat)	-	1.0	Vdc
(IC = 15 Adc, IB = 3.75 Adc)		-	4.0	Vdc
Base-Emitter Saturation Voltage (1) (IC = 15 Adc, IB = 3.75 Adc)	VBE(sat)	-	2.5	Vdc
Base-Emitter On Voltage (1) (IC = 6.0 Adc, VCE = 4.0 Vdc)	VBE(on)	-	1.5	Vdc

### DYNAMIC CHARACTERISTICS

Current-Gain-Bandwidth Product (2) (IC = 1.0 Adc, VCE = 10 Vdc, ftest = 1.0 MHz)	fT	4.0	-	MHz
Output Capacitance (VCB = 10 Vdc, IE = 0, f = 100 kHz)	Cob	-	600 400	pF
Small-Signal Current Gain (IC = 2.0 Adc, VCE = 4.0 Vdc, f = 1.0 kHz)	hfe	20	-	

### SWITCHING CHARACTERISTICS

Rise Time	(VCC = 30 Vdc, IC = 6.0 Adc, IB1 = IB2 = 0.6 Adc. See Figure 2)	tr	-	0.7	μs
Storage Time		ts	-	1.0	μs
Fall Time		tf	-	0.8	μs

\*Indicates JEDEC Registered Data.

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

(2) fT = |hfe| • ftest

