

# New Jersey Semi-Conductor Products, Inc.

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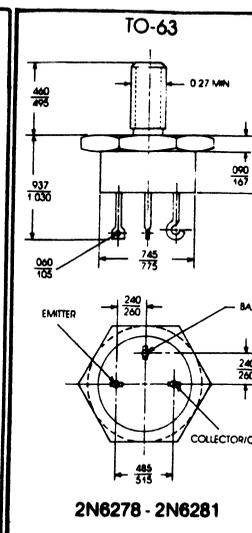
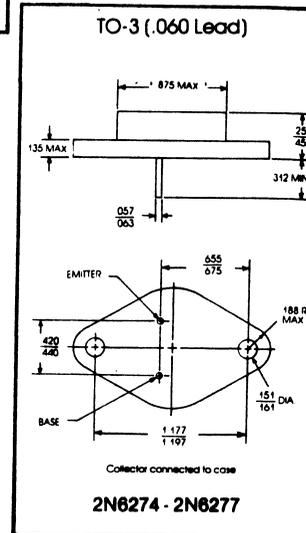
## NPN POWER TRANSISTORS 50 AMP SWITCHING

2N6274 thru  
 2N6281

- 250 W. Continuous Power
- VCEO (sus) to 150 V.

### MAXIMUM RATINGS

PARAMETER	SYMBOL	2N6274	2N6275	2N6276	2N6277	UNIT
		2N6278	2N6279	2N6280	2N6281	
Collector-Emitter Voltage	V <sub>CEO</sub>	100	120	140	150	V
Collector-Base Voltage	V <sub>CBO</sub>	120	140	160	180	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	6	6	6	V
Collector Current-Continuous		50	50	50	50	A
	-Peak	100	100	100	100	A
Base Current-Continuous		20	20	20	20	A
Power Dissipation @ T <sub>c</sub> < 25°C		250	250	250	250	W
Linear Derating Factor		1.43	1.43	1.43	1.43	W/°C
Storage & Operating Junction Temp. Range		-65°C to +200°C				
Lead Temperature (1/16" from case)		+235°C for 10 seconds				



### ELECTRICAL CHARACTERISTICS AT 25°C CASE TEMPERATURE

PARAMETER	SYMBOL	TEST CONDITIONS	2N6274 2N6278		2N6275 2N6279		2N6276 2N6280		2N6277 2N6281		UNIT
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	
Collector Cutoff Current	I <sub>CEX</sub>	<sup>1,2</sup> V <sub>CE</sub> = 120V, V <sub>BE</sub> = 1.5V		1		1					mA
		<sup>2</sup> V <sub>CE</sub> = 140V, V <sub>BE</sub> = 1.5V				1					mA
		<sup>2</sup> V <sub>CE</sub> = 160V, V <sub>BE</sub> = 1.5V					1				mA
		<sup>2</sup> V <sub>CE</sub> = 180V, V <sub>BE</sub> = 1.5V						1			mA
Collector Cutoff Current	I <sub>CEX</sub>	<sup>1</sup> V <sub>CE</sub> = 120V, V <sub>BE</sub> = 1.5V		10						1	μA
		V <sub>CE</sub> = 140V, V <sub>BE</sub> = 1.5V				10					μA
		V <sub>CE</sub> = 160V, V <sub>BE</sub> = 1.5V					10				μA
		V <sub>CE</sub> = 180V, V <sub>BE</sub> = 1.5V						10			μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = 6V		100		100		100		100	μA
Collector-Emitter Sustain Voltage*	V <sub>CEO(sus)</sub>	I <sub>B</sub> = 0, I <sub>C</sub> = 50mA	100		120		140		150		V
DC Forward Current Transfer Ratio*	h <sub>FE</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> = 50A	10		10		10		10		
		V <sub>CE</sub> = 4V, I <sub>C</sub> = 20A	30	120	30	120	30	120	30	120	
		V <sub>CE</sub> = 4V, I <sub>C</sub> = 1A	50		50		50		50		
Collector-Emitter Saturation Voltage*	V <sub>CE(sat)</sub>	I <sub>C</sub> = 50A, I <sub>B</sub> = 10A		3		3		3		3	V
		I <sub>C</sub> = 20A, I <sub>B</sub> = 2A		1		1		1		1	V
Base-Emitter Voltage*	V <sub>BE(sat)</sub>	I <sub>C</sub> = 50A, I <sub>B</sub> = 10A		1.2		1.2		1.2		1.2	V
		I <sub>C</sub> = 20A, I <sub>B</sub> = 2A		1.8		1.8		1.8		1.8	V
Base Emitter On Voltage	V <sub>BE(on)</sub>	I <sub>C</sub> = 20A, V <sub>CE</sub> = 4V		1.8		1.8		1.8		1.8	V
Collector Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> = 50V, I <sub>B</sub> = 0		50							μA
		V <sub>CE</sub> = 60V, I <sub>B</sub> = 0				50					μA
		V <sub>CE</sub> = 70V, I <sub>B</sub> = 0					50				μA
		V <sub>CE</sub> = 75V, I <sub>B</sub> = 0						50			μA
Rise Time	t <sub>r</sub>	V <sub>CC</sub> = 80V, I <sub>C</sub> = 20A I <sub>B1</sub> = 2A, V <sub>OB</sub> = 5V		.35		.35		.35		.35	μs
Storage Time	t <sub>s</sub>	V <sub>CC</sub> = 80V, I <sub>C</sub> = 20A I <sub>B1</sub> = I <sub>B2</sub> = 2A		.80		.80		.80		.80	μs
High Frequency Beta	h <sub>fe</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1A, f = 10MHz	3		3		3		3		
Common Base Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 0.1MHz		600		600		600		600	pF

\* Pulse Test: Pulse width < 300 μs; Duty Cycle < 2%  
 † Emitter diode is reverse biased  
 2. T<sub>c</sub> = 150°C



Quality Semi-Conductors