

# New Jersey Semi-Conductor Products, Inc.

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**2N6922,A 2N6923,A**  
**2N6926,A 2N6927,A**

These NPN silicon transistors offer a combination of speed and ruggedness for use in high speed switching systems. This series provides surface stabilization for high voltage operation and enhances long term reliability.

- \* Off-line Power Supplies
- \* Inverters/Converters
- \* TO-204AA - 2N6922 (A), 23 (A)
- \* Switching Amplifiers
- \* Switching Regulators
- \* TO-247 - 2N6926 (A), 27 (A)

*MAXIMUM RATINGS (T <sub>c</sub> = 25°C unless otherwise noted.)						
SYMBOL	DESCRIPTION	2N6922/A	2N6923/A	2N6926/A	2N6927/A	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage, Blocking	550/850	550/850	550/850	550/850	Volts
V <sub>CE(sat)</sub>	Collector-Emitter Voltage, Inductive Switching	450	500	450	500	Volts
V <sub>CE(sust)</sub>	Collector-Emitter Voltage, Sustaining	400	450	400	450	Volts
V <sub>EB0</sub>	Emitter Base Voltage	8.0		8.0		Volts
I <sub>C</sub>	Collector Current—Continuous/Peak	20/30		20/30		Amps
I <sub>E</sub>	Emitter Current—Continuous/Peak	30/40		30/40		Amps
I <sub>B</sub>	Base Current—Continuous/Peak	10/15		10/15		Amps
P <sub>D</sub>	Total Power Dissipation @ T <sub>c</sub> = 25°C	220		125		Watts
T <sub>oper</sub> T <sub>stg</sub>	Operating and Storage Junction Temperature Range	- 65 to +200		-55 to +150		°C

*ELECTRICAL CHARACTERISTICS (Applies to all types unless otherwise noted.)							
SYMBOL	CONDITIONS	PART NO/NOTES	T <sub>c</sub> = 25°C		T <sub>c</sub> = 100°C		UNIT
			MIN.	MAX.	MIN.	MAX.	
<b>OFF-STATE</b>							
V <sub>CE(sat)</sub>	I <sub>C</sub> = 50mA	2N6922, 6 (A) 2N6923, 7 (A)	400	450			Volts
I <sub>CEV</sub>	V <sub>CE</sub> = Rated V <sub>CEV</sub> , V <sub>EB</sub> = 1.5V			1.0			mA
I <sub>CEV</sub>	V <sub>CE</sub> = 0.8 Rated V <sub>CEV</sub> , V <sub>EB</sub> = 1.5V			10		100	μA
I <sub>EB0</sub>	V <sub>EB</sub> = 8.0V			1.0			mA
<b>ON-STATE</b>							
h <sub>FE</sub>	I <sub>C</sub> = 15A, V <sub>CE</sub> = 2.0V	Pulsed: Notes 1 & 2	8.0				
V <sub>CE(sat)</sub>	I <sub>C</sub> = 15A, I <sub>B</sub> = 3.0A			1.0		1.5	Volts
V <sub>CE(sat)</sub>	I <sub>C</sub> = 20A, I <sub>B</sub> = 5.0A		2.0			Volts	
V <sub>CE(sat)</sub>	I <sub>C</sub> = 30A, I <sub>B</sub> = 10A	Pulsed: Notes 1 & 3	5.0			Volts	
V <sub>BE(sat)</sub>	I <sub>C</sub> = 15A, I <sub>B</sub> = 3.0A	Pulsed: Notes 1 & 2	1.5			Volts	
<b>DYNAMIC</b>							
f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1.0A, f = 10MHz	Pulsed: Note 2	15	50			MHz
C <sub>obs</sub>	V <sub>CE</sub> = 10V, f = 1.0MHz		200	500			pF
t <sub>d</sub>	I <sub>C</sub> = 15A I <sub>B1</sub> = 3.0A	Resistive Load		20			ns
t <sub>r</sub>		V <sub>CC</sub> = V <sub>CE(sat)</sub>		50			ns
t <sub>sd</sub> (t <sub>r</sub> )		Current Source Load	Measured to 10V	1.0		3.0	μs
t <sub>sv</sub>		Inductive Load		1.0		1.5	μs
t <sub>v</sub>	I <sub>C</sub> = 15A I <sub>B1</sub> = 3.0A I <sub>B2</sub> = 6.0A	I <sub>p</sub> = 30μsec L = 100μH V <sub>CLAMP</sub> = V <sub>CE(sat)</sub>		30		40	ns
t <sub>h</sub>				30		40	ns
t <sub>c</sub>				50		70	ns
<b>THERMAL</b>							
R <sub>θJC</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 10A	2N6922, 3 (A)		0.8			°C/W
R <sub>θJC</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5.0A	2N6926, 7 (A)		1.0			°C/W

Notes: 1) Measured using Kelvin connections.  
 2) Pulse measurement conditions: Length = 300μs, Duty cycle < 2%.  
 3) Pulse measurement conditions: Length = 10μs, Duty cycle < 2%.

\*JEDEC registered data.

# Case TO-3 and TO-204AA

