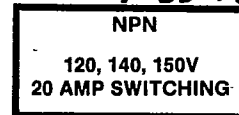


3918590 GENERAL SEMICONDUCTOR

95D 02135 D



**T-33-15**



**NPN SWITCHING POWER TRANSISTORS**

This unique series utilizes General Semiconductor Industries' C<sup>2</sup>R<sup>®</sup> process which describes a manufacturing technology that provides surface stabilization for high voltage operation and enhances long term reliability.

*MAXIMUM RATINGS (T <sub>c</sub> = 25°C unless otherwise noted)					
RATING	SYMBOL	2N6279	2N6280	2N6281	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	140	160	180	Volts
Collector-Emitter Voltage	V <sub>CE0</sub>	120	140	150	Volts
Emitter-Base Voltage	V <sub>EB0</sub>	6.0	6.0	6.0	Volts
Collector Current—Continuous	I <sub>c</sub>	50	50	50	Amps
Peak	I <sub>CM</sub>	100	100	100	Amps
Base Current—Continuous	I <sub>b</sub>	20	20	20	Amps
Total Power Dissipation@T <sub>c</sub> = 25°C	P <sub>D</sub>	250	250	250	Watts
Junction to Case Thermal Resistance	R <sub>θJC</sub>	0.7	0.7	0.7	°C/W
Operating and Storage Junction Temperature Range	T <sub>J(oper)</sub> T <sub>stg</sub>	-65 to +200	-65 to +200	-65 to +200	°C

*ELECTRICAL CHARACTERISTICS (T <sub>c</sub> = 25°C unless otherwise noted)								
SYMBOL	CONDITIONS	2N6279		2N6280		2N6281		Unit
		Min	Max	Min	Max	Min	Max	
V <sub>CE0(sat)</sub>	I <sub>c</sub> = 50mA	120	—	140	—	150	—	Volts
I <sub>CEO</sub>	V <sub>CE</sub> = 60V—2N6279	—	50	—	—	—	—	μA
I <sub>CEO</sub>	V <sub>CE</sub> = 70V—2N6280	—	—	—	50	—	—	μA
I <sub>CEO</sub>	V <sub>CE</sub> = 75V—2N6281	—	—	—	—	—	50	μA
I <sub>CEX</sub>	V <sub>CE</sub> = Rated V <sub>CB0</sub> , V <sub>EB(off)</sub> = 1.5V	—	10	—	10	—	10	μA
I <sub>CEX</sub>	V <sub>CE</sub> = Rated V <sub>CB0</sub> , V <sub>EB(off)</sub> = 1.5V, T <sub>c</sub> = 150°C	—	1.0	—	1.0	—	1.0	mA
I <sub>EBO</sub>	V <sub>BE</sub> = 6.0V	—	100	—	100	—	100	μA
h <sub>FE</sub> †	V <sub>CE</sub> = 4.0V, I <sub>c</sub> = 1.0A	50	—	50	—	50	—	
h <sub>FE</sub> †	V <sub>CE</sub> = 4.0V, I <sub>c</sub> = 20A	30	120	30	120	30	120	
h <sub>FE</sub> †	V <sub>CE</sub> = 4.0V, I <sub>c</sub> = 50A	10	—	10	—	10	—	
V <sub>CE(sat)</sub> †	I <sub>c</sub> = 20A, I <sub>b</sub> = 2.0A	—	1.2	—	1.2	—	1.2	Volts
V <sub>CE(sat)</sub> †	I <sub>c</sub> = 50A, I <sub>b</sub> = 10A	—	3.0	—	3.0	—	3.0	Volts
V <sub>BE(sat)</sub> †	I <sub>c</sub> = 20A, I <sub>b</sub> = 2.0A	—	1.8	—	1.8	—	1.8	Volts
V <sub>BE(sat)</sub> †	I <sub>c</sub> = 50A, I <sub>b</sub> = 10A	—	3.5	—	3.5	—	3.5	Volts
V <sub>BE(on)</sub> †	I <sub>c</sub> = 20A, V <sub>CE</sub> = 4.0V	—	1.8	—	1.8	—	1.8	Volts
f <sub>r</sub>	V <sub>CE</sub> = 10V, I <sub>c</sub> = 1.0A, f <sub>test</sub> = 10MHz	30	—	30	—	30	—	MHz
C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 0.1MHz	—	600	—	600	—	600	pF
SWITCHING								
t <sub>r</sub>	Resistive Load V <sub>CC</sub> = 80V I <sub>c</sub> = 20A I <sub>B1</sub> = I <sub>B2</sub> = 2.0A t <sub>p</sub> = 30μs	—	0.35	—	0.35	—	0.35	μs
t <sub>s</sub>		—	0.80	—	0.80	—	0.80	μs
t <sub>f</sub>		—	0.25	—	0.25	—	0.25	μs
t <sub>p</sub>		—	—	—	—	—	—	—

\*JEDEC registered data. † Pulse Conditions: Width = 300μs; Duty Cycle ≤ 2% (measured using Kelvin connections).

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NPN SWITCHING TRANSISTORS