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

2N4896

N-P-N Silicon Power Transistor

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

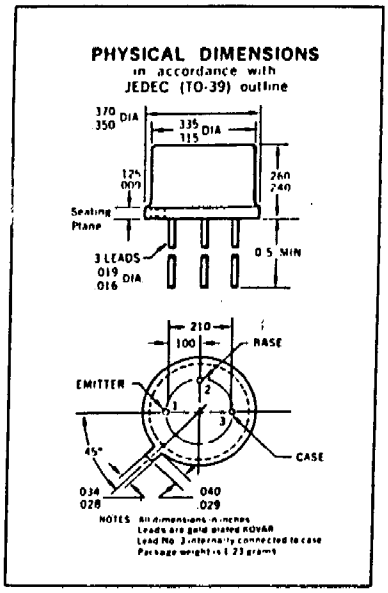
Storage Temperature	−65°C to +200°C
Operating Junction Temperature	200°C
Lead Temperature (60 seconds)	300°C

Maximum Power Dissipation

Total Dissipation at 25°C Case Temperature	4.0 W
at 100°C Case Temperature	
Linear Derating Factor	40 mW/°C
Total Dissipation at 25°C Ambient Temperature	0.8 W
Linear Derating Factor	4.57 mW/°C

Maximum Voltage and Current

V_{CBO}	Collector to Base Voltage	120 V
V_{EBO}	Emitter to Base Voltage	6.0 V
V_{CEO}	Collector to Emitter Voltage	60 V
I_C	Collector Current	5.0 A
I_B	Base Current	1.0 A



ELECTRICAL CHARACTERISTICS (25°C Case Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNITS	TEST CONDITIONS
I_{CES}	Collector Cutoff Current		0.1	mA	V_{CE} = 60 V, V_{BE} = 0, T_A = 150°C
			1.0	mA	V_{CE} = 120 V, V_{BE} = 0
			1.0	μA	V_{CE} = 60 V, V_{BE} = 0
I_{EBO}	Emitter Cutoff Current		1.0	μA	V_{EB} = 4.0 V, I_E = 0
			1.0	mA	V_{EB} = 6.0 V, I_E = 0
$V_{CEO(sus)}$	Collector to Emitter Sustaining Voltage (Notes 4 & 5)	60		V	I_C = 50 mA, I_B = 0
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Notes 5 & 6)		1.0	V	I_C = 5.0 A, I_B = 0.5 A
$V_{BE(sat)}$	Base to Emitter Voltage (Notes 5 & 6)		1.6	V	I_C = 5.0 A, I_B = 0.5 A
h_{FE}	DC Current Gain (Note 5)	100	300		I_C = 2.0 A, V_{CE} = 2.0 V
		35			I_C = 2.0 A, V_{CE} = 2.0 V, T_A = −55°C
t_r	Rise Time		300	ns	I_C = 5.0 A, I_{B1} = 0.5 A
t_d	Delay Time		50	ns	I_C = 5.0 A, I_{B1} = 0.5 A
t_s	Storage Time		350	ns	I_C = 5.0 A, I_{B1} = I_{B2} = 0.5 A
t_f	Fall Time		300	ns	I_C = 5.0 A, I_{B1} = I_{B2} = 0.5 A
C_{ob}	Output Capacitance		80	pF	I_E = 0, V_{CB} = 10 V, f = 0.14 MHz
C_{ib}	Input Capacitance		500	pF	V_{EB} = 0.5 V, I_C = 0, f = 0.14 MHz
$\|h_{fe}\|$	Magnitude of Common Emitter Small Signal Current Gain	4.0			V_{CE} = 5.0 V, I_C = 0.5 A, f = 20 MHz