

New Jersey Semi-Conductor Products, Inc.

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

2N4896

N-P-N Silicon Power Transistor

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

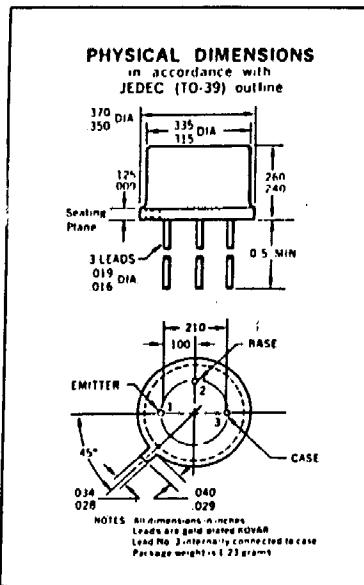
Storage Temperature	-65°C to +200°C
Operating Junction Temperature	200°C
Lead Temperature (60 seconds)	300°C

Maximum Power Dissipation

Total Dissipation at 25°C Case Temperature at 100°C Case Temperature	4.0 W
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	1.0	mA	V _{CE} = 60 V, V _{BE} = 0, T _A = 150°C
				mA	V _{CE} = 120 V, V _{BE} = 0
				μA	V _{CE} = 60 V, V _{BE} = 0
I _{EBO}	Emitter Cutoff Current	1.0	1.0	μA	V _{EB} = 4.0 V, I _E = 0
				mA	V _{EB} = 6.0 V, I _E = 0
V _{CEO(sus)}	Collector to Emitter Sustaining Voltage (Notes 4 & 5)	60	60	V	I _C ≈ 50 mA, I _B = 0
				V	I _C = 5.0 A, I _B = 0.5 A
V _{CE(sat)}	Collector to Emitter Saturation Voltage (Notes 5 & 6)	1.0	1.0	V	I _C = 5.0 A, I _B = 0.5 A
				V	I _C = 5.0 A, I _B = 0.5 A
V _{BE(sat)}	Base to Emitter Voltage (Notes 5 & 6)	1.6	1.6	V	I _C = 5.0 A, I _B = 0.5 A
				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	35		I _C = 2.0 A, V _{CE} = 2.0 V, T _A = -55°C
t _r	Rise Time	300	300	ns	I _C = 5.0 A, I _{B1} = 0.5 A
				ns	I _C = 5.0 A, I _{B1} = 0.5 A
t _d	Delay Time	50	50	ns	I _C = 5.0 A, I _{B1} = 0.5 A
				ns	I _C = 5.0 A, I _{B1} = 0.5 A
t _s	Storage Time	350	350	ns	I _C = 5.0 A, I _{B1} = I _{B2} = 0.5 A
				ns	I _C = 5.0 A, I _{B1} = I _{B2} = 0.5 A
t _f	Fall Time	300	300	ns	I _C = 5.0 A, I _{B1} = I _{B2} = 0.5 A
				ns	I _C = 5.0 A, I _{B1} = I _{B2} = 0.5 A
C _{ob}	Output Capacitance	80	80	pF	I _E = 0, V _{CB} = 10 V, f = 0.14 MHz
				pF	V _{EB} = 0.5 V, I _C = 0, f = 0.14 MHz
C _{ib}	Input Capacitance	500	500	pF	V _{CE} = 5.0 V, I _C = 0.5 A, f = 20 MHz
				pF	
h _{fe}	Magnitude of Common Emitter Small Signal Current Gain	4.0			

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