

2N5088

NPN LOW LEVEL LOW NOISE HIGH GAIN AMPLIFIER

ABSOLUTE MAXIMUM RATINGS (Note 1)

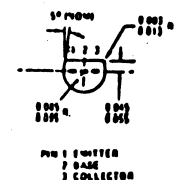
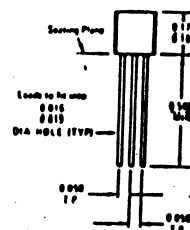
†Maximum Temperature	-55°C to +150°C
Storage Temperature	150°C
Operating Junction Temperature	260°C
Lead Temperature (10 seconds)	

†Maximum Power Dissipation (Notes 2 & 3)

Total Dissipation at 25°C Ambient Temperature
at 25°C Case Temperature

Maximum Voltages and Current

V _{CB0}	Collector to Base Voltage	35 V
V _{CE0}	Collector to Emitter Voltage (Note 4)	30 V
†V _{EB0}	Emitter to Base Voltage	4.5 V
I _C	Collector Current	50 mA



ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise specified)

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNITS	TEST CONDITIONS
BV _{CEO(sus)}	Collector to Emitter Sustaining Voltage	30		V	I _C = 1.0 mA, I _E = 0
BV _{CBO}	Collector to Base Breakdown Voltage	35		V	I _C = 100 μA, I _E = 0
I _{CBO}	Collector Cutoff Current		50	nA	V _{CB} = 20 V, I _E = 0
I _{EBO}	Emitter Cutoff Current		50	nA	V _{EB} = 3.0 V, I _C = 0
h _{FE}	DC Current Gain (Note 5)	300 350 300	900		V _{EB} = 4.5 V, I _C = 0 I _C = 100 μA, V _{CE} = 5.0 V I _C = 1.0 mA, V _{CE} = 5.0 V I _C = 10 mA, V _{CE} = 5.0 V
V _{CE(sat)}	Collector Saturation Voltage (Note 5)		0.5	V	I _C = 10 mA, I _B = 1.0 mA
V _{BE(ON)}	Base to Emitter "On" Voltage (Note 5)		0.8	V	I _C = 10 mA, V _{CE} = 5.0 V
f _T	Current Gain Bandwidth Product	50		MHz	I _C = 500 μA, V _{CE} = 5.0 V, f = 20 MHz
C _{cb}	Collector to Base Capacitance		4.0	pF	V _{CB} = 5.0 V, I _E = 0, f = 100 kHz
†C _{eb}	Emitter to Base Capacitance		10	pF	V _{BE} = 0.5 V, I _C = 0, f = 100 kHz
h _{fe}	Small Signal Current Gain	350	1400		I _C = 1.0 mA, V _{CE} = 5.0 V, f = 1.0 kHz
NF	Noise Figure		3.0	dB	I _C = 100 μA, V _{CE} = 5.0 V, R _S = 10 kΩ, f = 10 Hz to 15.7 kHz

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- These ratings give a maximum junction temperature of 150°C and junction to ambient thermal resistance of 200°C/W (derating factor of 5.0 mW/°C); junction to case thermal resistance of 125°C/W (derating factor of 8.0 mW/°C).
- Rating refers to a high current point where collector to emitter voltage is lowest.
- Pulse conditions: length = 300 μs; duty cycle = 1%.

