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2N5550

NPN SMALL SIGNAL HIGH VOLTAGE GENERAL PURPOSE AMPLIFIER

ABSOLUTE MAXIMUM RATINGS (Note 1)

† Maximum Temperatures

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

† Maximum Power Dissipation (Notes 2 & 3)

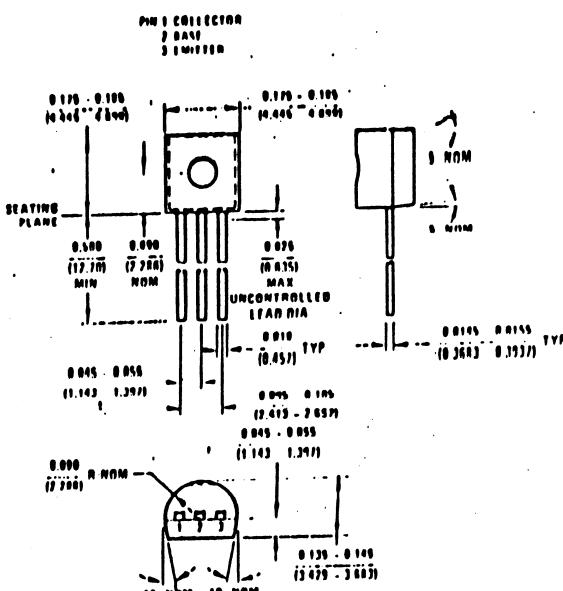
Total Dissipation at 25°C Ambient Temperature	0.625 W
at 25°C Case Temperature	1.0 W

Maximum Voltages and Current

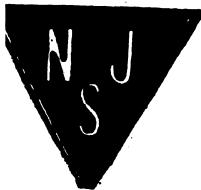
VCBO	Collector to Base Voltage	2N5550
VCEO	Collector to Emitter Voltage (Note 4)	160 V
VEBO	Emitter to Base Voltage	140 V
IC	Collector Current	6.0 V

Package Outline

Dimensions are in ^{inches}
(millimeters)



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



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

SYMBOL	CHARACTERISTIC	2N5550 MIN. MAX.	TEST CONDITIONS
BV_{CEO}	Collector to Emitter Breakdown Voltage	140	$I_C = 1.0 \text{ mA}, I_B = 0$
BV_{CBO}	Collector to Base Breakdown Voltage	160	$I_C = 100 \mu\text{A}, I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	6.0	$I_E = 10 \mu\text{A}, I_C = 0$
I_{CBO}	Collector Cutoff Current	100	$V_{CB} = 100 \text{ V}, I_E = 0$ $V_{CB} = 120 \text{ V}, I_E = 0$
		100	$V_{CB} = 100 \text{ V}, I_E = 0, T_A = 100^\circ\text{C}$ $V_{CB} = 120 \text{ V}, I_E = 0, T_A = 100^\circ\text{C}$
I_{EBO}	Emitter Cutoff Current	.50	$V_{EB} = 4.0 \text{ V}, I_C = 0$
h_{FE}	DC Pulse Current Gain (Note 6)	60	$I_C = 1.0 \text{ mA}, V_{CE} = 5.0 \text{ V}$
		250	$I_C = 10 \text{ mA}, V_{CE} = 5.0 \text{ V}$
		20	$I_C = 50 \text{ mA}, V_{CE} = 5.0 \text{ V}$
$V_{CE(\text{sat})}$	Collector Saturation Voltage (Note 5)	0.15	$I_C = 10 \text{ mA}, I_B = 1.0 \text{ mA}$
		0.25	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$
$V_{BE(\text{sat})}$	Base Saturation Voltage (Note 5)	1.0	$I_C = 10 \text{ mA}, I_B = 1.0 \text{ mA}$
		1.2	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$
C_{ob}	Output Capacitance	6.0	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1.0 \text{ MHz}$
C_{ib}	Input Capacitance	30	$V_{EB} = 0.5 \text{ V}, I_C = 0, f = 1.0 \text{ MHz}$
f_T	Current Gain Bandwidth Product	100	$I_C = 10 \text{ mA}, V_{CE} = 10 \text{ V}, f = 100 \text{ MHz}$
h_{fe}	Small Signal Current Gain	50	$I_C = 1.0 \text{ mA}, V_{CE} = 10 \text{ V}, f = 1.0 \text{ kHz}$
NF	Noise Figure	10	$I_C = 250 \mu\text{A}, V_{CE} = 5.0 \text{ V}, R_S = 1.0 \text{ k}\Omega, f = 10 \text{ Hz to } 15.7 \text{ kHz}$

NOTES:

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