

New Jersey Semi-Conductor Products, Inc.

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MAXIMUM RATINGS

Rating	Symbol	Value		Unit
Collector-Emitter Voltage	V _{CEO}	45		Vdc
Collector-Base Voltage	V _{CBO}	45		Vdc
Emitter-Base Voltage	V _{EBO}	5.0		Vdc
Collector Current — Continuous	I _C	40		mAdc
		One Die	Both Die	
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	0.3 1.7	0.6 3.4	Watt mW/°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	0.6 3.4	1.2 6.8	Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	- 65 to + 200		°C

2N2722



**DUAL
 AMPLIFIER TRANSISTOR**
 NPN SILICON

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage(1) (I _C = 10 mAdc, I _B = 0)	V _{(BR)CEO}	45	—	Vdc
Collector-Base Breakdown Voltage (I _C = 10 μAdc, I _E = 0)	V _{(BR)CBO}	45	—	Vdc
Collector Cutoff Current (V _{CE} = 5.0 Vdc, I _B = 0)	I _{CEO}	—	2.0	nAdc
Collector Cutoff Current (V _{CB} = 30 Vdc, I _E = 0) (V _{CB} = 30 Vdc, I _E = 0, T _A = 150°C)	I _{CBO}	—	0.001 1.0	μAdc
Emitter Cutoff Current (V _{EB} = 5.0 Vdc, I _C = 0)	I _{EBO}	—	1.0	nAdc

ON CHARACTERISTICS

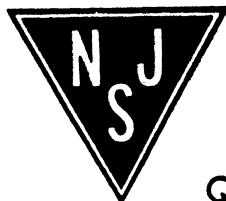
DC Current Gain (I _C = 1.0 μAdc, V _{CE} = 5.0 Vdc) (I _C = 10 μAdc, V _{CE} = 5.0 Vdc) (I _C = 0.1 mAdc, V _{CE} = 5.0 Vdc)	h _{FE}	50 100 125	250 — —	—
Collector-Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 0.5 mAdc)	V _{CE(sat)}	—	1.0	Vdc
Base-Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 0.5 mAdc)	V _{BE(sat)}	0.65	0.85	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product (I _C = 10 mAdc, V _{CE} = 10 Vdc, f = 20 MHz)	f _T	100	—	MHz
Output Capacitance (V _{CB} = 5.0 Vdc, I _E = 0, f = 1.0 MHz)	C _{obo}	—	6.0	pF
Input Impedance (I _E = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz)	h _{ib}	25	32	ohms
Voltage Feedback Ratio (I _E = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz)	h _{rb}	—	600	X 10 ⁻⁶
Small-Signal Current Gain (I _E = 0.1 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{fe}	100	700	—
Output Admittance (I _E = 1.0 mAdc, V _{CB} = 5.0 Vdc, f = 1.0 kHz)	h _{ob}	—	1.0	μmhos
Noise Figure (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, R _S = 10 kΩ, f = 10 Hz to 15.7 kHz)	NF	—	4.0	dB

MATCHING CHARACTERISTICS

DC Current Gain Ratio(2) (I _C = 1.0 μAdc, V _{CE} = 5.0 Vdc)	h _{FE1} /h _{FE2}	0.9	1.0	—
Base-Emitter Voltage Differential (I _C = 10 μAdc, V _{CE} = 5.0 Vdc)	V _{BE1} - V _{BE2}	—	5.0	mVdc
Base-Emitter Voltage Differential Change Due to Temperature (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, T _A = - 55 to + 25°C) (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, T _A = + 25 to + 125°C)	Δ(V _{BE1} - V _{BE2})	—	0.8 1.0	mVdc



Quality Semi-Conductors