

MAXIMUM RATINGS

Rating	Symbol	2N5400	2N5401	Unit
Collector-Emitter Voltage	V _{CEO}	120	150	V _{dc}
Collector-Base Voltage	V _{CBO}	130	160	V _{dc}
Emitter-Base Voltage	V _{EBO}	5.0		V _{dc}
Collector Current — Continuous	I _C	600		mAdc
Total Device Dissipation (at T _A = 25°C Derate above 25°C)	P _D	625	5.0	mW mW/°C
Total Device Dissipation (at T _C = 25°C Derate above 25°C)	P _D	1.5	12.0	Watt mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	- 55 to + 150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	83.3	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	200	°C/W

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 = 1.0 mAdc, I _B = 0)	2N5400 2N5401	V _{(BR)CEO}	120 150	—	V _{dc}
Collector-Base Breakdown Voltage (I _C = 100 μAdc, I _E = 0)	2N5400 2N5401	V _{(BR)CBO}	130 160	—	V _{dc}
Emitter-Base Breakdown Voltage (I _E = 10 μAdc, I _C = 0)		V _{(BR)EBO}	5.0	—	V _{dc}
Collector Cutoff Current (V _{CB} = 100 Vdc, I _E = 0) (V _{CB} = 120 Vdc, I _E = 0) (V _{CB} = 100 Vdc, I _E = 0, T _A = 100°C) (V _{CB} = 120 Vdc, I _E = 0, T _A = 100°C)	2N5400 2N5401 2N5400 2N5401	I _{CBO}	— — — —	100 50 100 50	nAdc μAdc
Emitter Cutoff Current (V _{EB} = 3.0 Vdc, I _C = 0)		I _{EBO}	—	50	nAdc

ON CHARACTERISTICS(1)

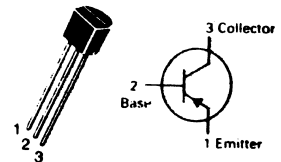
DC Current Gain (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc)	2N5400 2N5401	h _{FE}	30 50	—	—
(I _C = 10 mAdc, V _{CE} = 5.0 Vdc)	2N5400 2N5401		40 60	180 240	
(I _C = 50 mAdc, V _{CE} = 5.0 Vdc)	2N5400 2N5401		40 50	—	—
Collector-Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 50 mAdc, I _B = 5.0 mAdc)		V _{CE(sat)}	— —	0.20 0.5	V _{dc}
Base-Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc) (I _C = 50 mAdc, I _B = 5.0 mAdc)		V _{BE(sat)}	— —	1.0 1.0	V _{dc}

SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product (I _C = 10 mAdc, V _{CE} = 10 Vdc, f = 100 Mhz)	2N5400 2N5401	f _T	100 100	400 300	MHz
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 Mhz)		C _{obo}	—	6.0	pF

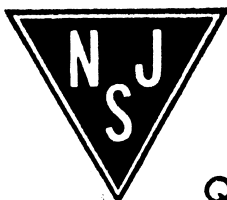
**2N5400
2N5401**

CASE 29-04, STYLE 1
TO-92 (TO-226AA)



AMPLIFIER TRANSISTOR

PNP SILICON



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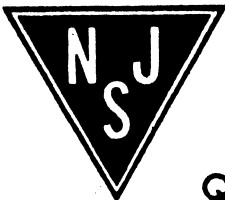
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2N5400, 2N5401

ELECTRICAL CHARACTERISTICS (continued) ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
Small-Signal Current Gain $I_C = 1.0 \text{ mA dc}, V_{CE} = 10 \text{ V dc}, f = 1.0 \text{ kHz}$	h_{fe}	30	200	—
		40	200	
Noise Figure $I_C = 250 \mu\text{A dc}, V_{CE} = 5.0 \text{ V dc},$ $R_S = 1.0 \text{ kohm}, f = 10 \text{ Hz to } 15.7 \text{ kHz}$	NF	—	8.0	dB

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle = 2.0%.



Quality Semi-Conductors