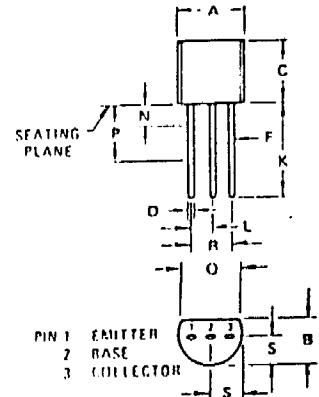


2N4400

NPN SMALL SIGNAL GENERAL PURPOSE AMPLIFIER



ABSOLUTE MAXIMUM RATINGS (Note 1)

†Maximum Temperatures		-55°C to +150°C
Storage Temperature		150°C
Operating Junction Temperature		260°C
Lead Temperature (10 seconds)		
†Maximum Power Dissipation (Notes 2 & 3)		1.0 W
Total Dissipation at 25°C Case Temperature		0.625 W
at 25°C Ambient Temperature		
Maximum Voltages and Current		60 V
V _{CB0} Collector to Base Voltage		40 V
V _{CEO} Collector to Emitter Voltage (Note 4)		6.0 V
V _{EB0} Emitter to Base Voltage		600 mA
I _C Collector Current		

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.450	5.200	0.175	0.205
B	3.180	4.100	0.125	0.165
C	4.320	5.330	0.170	0.210
D	0.407	0.533	0.016	0.021
F	0.407	0.482	0.016	0.019
K	12.700	-	0.500	-
L	1.150	1.390	0.045	0.055
N	-	1.270	-	0.050
P	6.350	-	0.250	-
Q	3.430	-	0.135	-
R	2.410	2.670	0.095	0.105
S	2.030	2.670	0.080	0.105

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

SYMBOL	CHARACTERISTIC	MIN. MAX.		UNITS	TEST CONDITIONS
BV _{CEO(sus)}	Collector to Emitter Sustaining Voltage (Note 5)	40		V	I _C = 1.0 mA, I _B = 0
BV _{CB0}	Collector to Base Breakdown Voltage	60		V	I _C = 100 μA, I _E = 0
BV _{EB0}	Emitter to Base Breakdown Voltage	6.0		V	I _E = 100 μA, I _C = 0
I _{CEX}	Collector Cutoff Current		100	nA	V _{CE} = 35 V, V _{EB} = 0.4 V
I _{BL}	Base Reverse Current		100	nA	V _{CE} = 35 V, V _{EB} = 0.4 V
h _{FE}	DC Current Gain	20			I _C = 100 μA, V _{CE} = 1.0 V
		40			I _C = 1.0 mA, V _{CE} = 1.0 V
		40			I _C = 10 mA, V _{CE} = 1.0 V
h _{FE}	DC Pulse Current Gain (Note 5)	50	150		I _C = 150 mA, V _{CE} = 1.0 V
		20			I _C = 500 mA, V _{CE} = 2.0 V
V _{CE(sat)}	Collector Saturation Voltage (Note 5)		0.4	V	I _C = 150 mA, I _B = 15 mA
			0.75	V	I _C = 500 mA, I _B = 50 mA
V _{BE(sat)}	Base Saturation Voltage (Note 5)	0.75	0.95	V	I _C = 150 mA, I _B = 15 mA
			1.2	V	I _C = 500 mA, I _B = 50 mA
f _T	Current Gain Bandwidth Product	200		MHz	I _C = 20 mA, V _{CE} = 10 V, f = 100 MHz
C _{cb}	Collector to Base Capacitance		6.5	pF	V _{CB} = 5.0 V, I _E = 0, f = 100 kHz
C _{eb}	Emitter to Base Capacitance		30	pF	V _{EB} = 0.5 V, I _C = 0, f = 100 kHz
h _{ie}	Input Impedance	0.5	7.5	kΩ	I _C = 1.0 mA, V _{CE} = 10 V, f = 1.0 kHz
h _{re}	Voltage Feedback Ratio	0.1	8.0	x10 ⁻⁴	I _C = 1.0 mA, V _{CE} = 10 V, f = 1.0 kHz
h _{ie}	Small Signal Current Gain	20	250		I _C = 1.0 mA, V _{CE} = 10 V, f = 1.0 kHz
h _{oe}	Output Admittance	1.0	30	μmhos	I _C = 1.0 mA, V _{CE} = 10 V, f = 1.0 kHz

