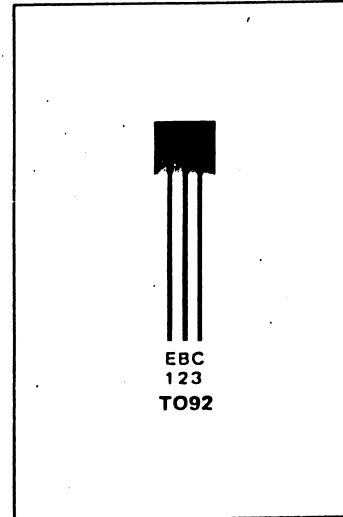


# 2N4124

## NPN SMALL SIGNAL GENERAL PURPOSE AMPLIFIER AND SWITCH

### ABSOLUTE MAXIMUM RATINGS

†Maximum Temperatures		
Storage Temperature		-55° C to +150° C
Operating Junction Temperature		150° C
Lead Temperature (60 seconds)		230° C
†Maximum Power Dissipation		
Total Dissipation at 25° C Case Temperature		1.0 W
at 25° C Ambient Temperature		0.625 W
at 70° C Ambient Temperature		0.400 W
Maximum Voltages and Current		
V <sub>CBO</sub> Collector to Base Voltage		2N4124 30 V
V <sub>CEO</sub> Collector to Emitter Voltage		25 V
V <sub>EBO</sub> Emitter to Base Voltage		5.0 V
I <sub>C</sub> Collector Current		200 mA



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

SYMBOL	CHARACTERISTIC	2N4124		UNITS	TEST CONDITIONS
		MIN.	MAX.		
h <sub>FE</sub>	DC Pulse Current Gain	120	360		I <sub>C</sub> = 2.0 mA, V <sub>CE</sub> = 1.0 V I <sub>C</sub> = 50 mA, V <sub>CE</sub> = 1.0 V
V <sub>CE(sat)</sub>	Collector Saturation Voltage		0.3	V	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 5.0 mA
V <sub>BE(sat)</sub>	Base Saturation Voltage		0.95	V	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 5.0 mA
I <sub>CBO</sub>	Collector Cutoff Current		50	nA	V <sub>CB</sub> = 20 V, I <sub>E</sub> = 0
I <sub>EBO</sub>	Emitter Cutoff Current		50	nA	V <sub>EB</sub> = 3.0 V, I <sub>C</sub> = 0
BV <sub>CBO</sub>	Collector to Base Breakdown Voltage	30		V	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0
BV <sub>CEO</sub>	Collector to Emitter Breakdown Voltage	25		V	I <sub>C</sub> = 1.0 mA, I <sub>B</sub> = 0
BV <sub>EBO</sub>	Emitter to Base Breakdown Voltage	5.0		V	I <sub>C</sub> = 0, I <sub>E</sub> = 10 μA
C <sub>cb</sub>	Collector to Base Capacitance		4.0	pF	I <sub>E</sub> = 0, V <sub>CB</sub> = 5.0 V, f = 100 kHz
C <sub>ib</sub>	Input Capacitance		8.0	pF	I <sub>C</sub> = 0, V <sub>EB</sub> = 0.5 V, f = 100 kHz
h <sub>fe</sub>	Magnitude of Small Signal Current Gain	3.0			I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 20 V, f = 100 MHz
h <sub>fe</sub>	Small Signal Current Gain	120	480		I <sub>C</sub> = 2.0 mA, V <sub>CE</sub> = 10 V, f = 1.0 kHz
NF	Noise Figure		5.0	dB	I <sub>C</sub> = 100 μA, V <sub>CE</sub> = 5.0 V, R <sub>S</sub> = 1.0 kΩ, f = 10 Hz to 15.7 kHz

