

# Transistors

## 2N4124

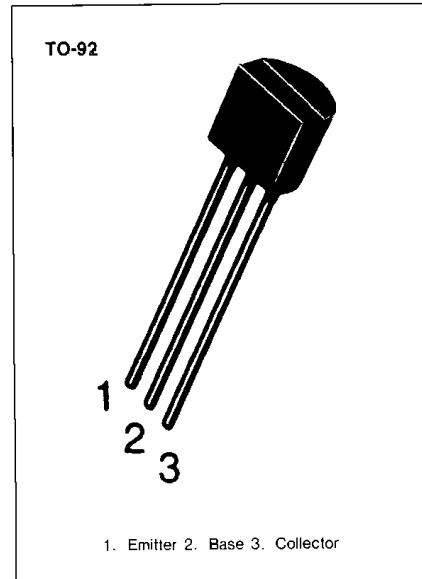
### GENERAL PURPOSE TRANSISTOR

• Collector-Emitter Voltage:  $V_{CE0} = 2N4124: 25V$

• Collector Dissipation:  $P_C (\text{max}) = 625\text{mW}$

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	200	mA
Collector Dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55~150	$^\circ\text{C}$



• Refer to 2N3904 for graphs

### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30			V
* Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 1\text{mA}, I_B = 0$	25			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 20V, I_C = 0$			50	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{BE} = 3V, I_C = 0$			50	nA
* DC Current Gain	$h_{FE}$	$V_{CE} = 1V, I_C = 0.2\text{mA}$	120		360	
		$V_{CE} = 1V, I_C = 50\text{mA}$	60			
* Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.3	V
* Base-Emitter Saturation Voltage	$V_{BE} (\text{sat})$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.95	V
Output Capacitance	$C_{OB}$	$V_{CB} = 5V, I_E = 0$ $f = 1\text{MHz}$			4	pF
Collector-Base Capacitance	$C_{CB}$	$V_{CB} = 5V, I_E = 0$ $f = 100\text{M}$			4	pF
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 20V, I_C = 10\text{mA}$ $f = 100\text{MHz}$	300			MHz

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ . Duty Cycle  $\leq 2\%$

