

2N4124

NPN EPITAXIAL SILICON TRANSISTOR

T-29-21

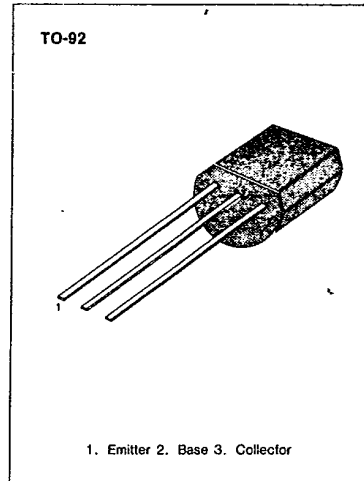
GENERAL PURPOSE TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 25V$
- 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}	$V_{CB} = 20V, I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 3V, I_C = 0$			50	nA
*DC Current Gain	h_{FE}	$I_C = 2\text{mA}, V_{CE} = 1V$	120		360	
		$I_C = 50\text{mA}, V_{CE} = 1V$	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
Current Gain Bandwidth Product	f_T	$I_C = 10\text{mA}, V_{CE} = 20V$ $f = 100\text{MHz}$	300			MHz
Output Capacitance	C_{ob}	$V_{CB} = 5V, I_E = 0$ $f = 1\text{MHz}$			4	pF
Collector-Base Capacitance	C_{cb}	$V_{CB} = 5V, I_E = 0$ $f = 100\text{KHz}$			4	pF

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