

Transistors

2N5210

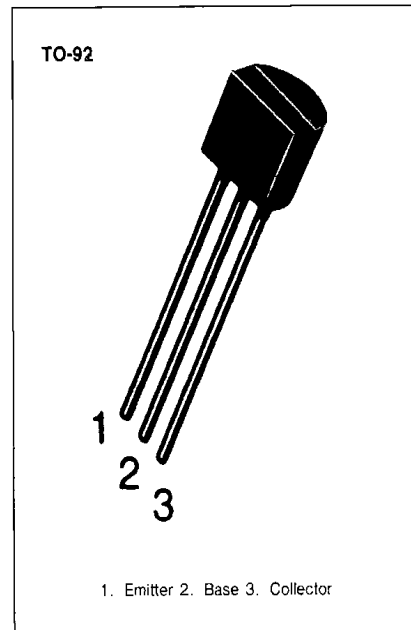
AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 50V$
- Collector Dissipation: $P_C (\text{max}) = 625mW$

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	4.5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$

- Refer to 2N5088 for graphs



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	50			V
*Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	50			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 35V, I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			50	nA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 100\mu A$	200		600	
		$V_{CE} = 5V, I_C = 1mA$	250			
		* $V_{CE} = 5V, I_C = 10mA$	250			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.7	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 1mA, V_{CE} = 5V$			0.85	V
Collector-Base Capacitance	C_{CB}	$V_{CB} = 5V, I_E = 0$ $f = 100KHz$			4	pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 500\mu A$ $f = 20MHz$	30			MHz
Noise Figure	N_F	$V_{CE} = 5V, I_C = 20\mu A$ $R_S = 22K\Omega$ $f = 10Hz \text{ to } 15.7KHz$			2	dB
		$V_{CE} = 5V, I_C = 20\mu A$ $R_S = 10K\Omega, f = 1KHz$			3	dB

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

