

**2N5210**

**NPN EPITAXIAL SILICON TRANSISTOR**

T-29-21

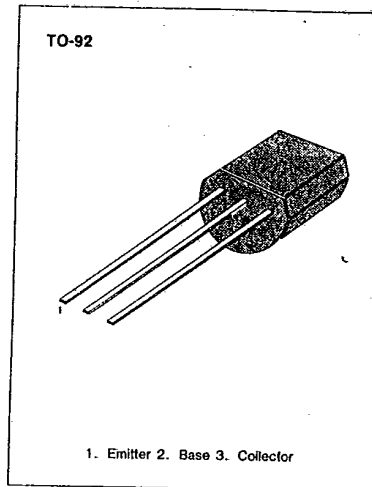
**AMPLIFIER TRANSISTOR**

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

**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



**3**

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

Characteristic	Symbol	Test Conditions	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	$I_{EBO}$	$V_{BE} = 3V, I_C = 0$			50	nA
DC Current Gain	$h_{FE}$	$I_C = 100\mu A, V_{CE} = 5V$	200		600	
		$I_C = 1mA, V_{CE} = 5V$	250			
		$I_C = 10mA, V_{CE} = 5V$	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
Current Gain Bandwidth Product	$f_T$	$I_C = 500\mu A, V_{CE} = 5V$	30			MHz
		$f = 20MHz$				
Collector Base Capacitance	$C_{cb}$	$V_{CB} = 5V, I_E = 0$			4	pF
		$f = 100KHz$				
Noise Figure	NF	$I_C = 20\mu A, V_{CE} = 5V$			2	dB
		$R_S = 22K\Omega$				
		$f = 10Hz$ to $15.7KHz$				
		$I_C = 20\mu A, V_{CE} = 5V$			3	dB
		$R_S = 10K\Omega, f = 1KHz$				

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