

2N5089

## NPN EPITAXIAL SILICON TRANSISTOR

T-29-21

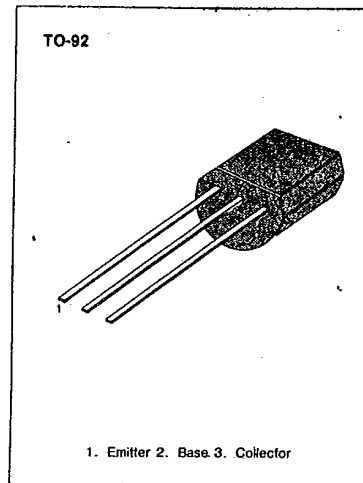
## AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage:  $V_{CE0}=25V$
- Collector Dissipation:  $P_C(\text{max})=625mW$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	25	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



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	30			V
*Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	25			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=15V, I_E=0$			50	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{BE}=3V, I_C=0$			50	nA
DC Current Gain	$h_{FE}$	$I_C=100\mu A, V_{CE}=5V$	400		1200	
		$I_C=1mA, V_{CE}=5V$	450			
		* $I_C=10mA, V_{CE}=5V$	400			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.5	V
*Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=10mA, V_{CE}=5V$			0.8	V
Current Gain Bandwidth Product	$f_T$	$I_C=500\mu A, V_{CE}=5V$ $f=20MHz$	50			MHz
Collector Base Capacitance	$C_{cb}$	$V_{CB}=5V, I_E=0$ $f=100KHz$			4	pF
Noise Figure	NF	$I_C=100\mu A, V_{CE}=5V$ $R_S=10K\Omega$ $f=10Hz$ to $15.7KHz$			2	dB

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