

Transistors

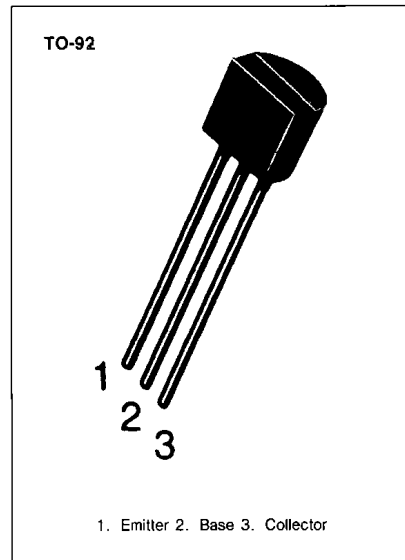
2N5089

AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 2N5089: 25V$
- Collector Dissipation: $P_C (max)=625mW$

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	$^\circ C$



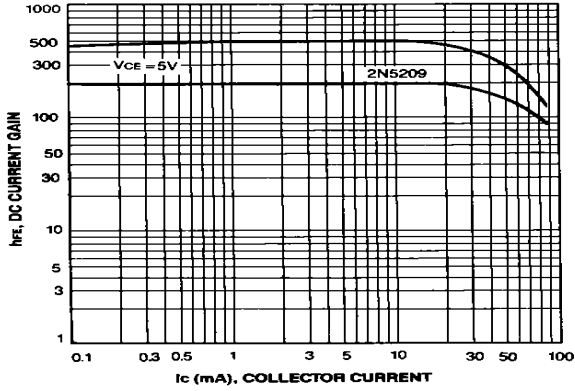
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

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
Base Cut-off Current	I_{EBO}	$V_{BE} = 3V, I_C = 0$			50	nA
DC Current Gain	h_{FE}	$V_{BE} = 4.5V, I_C = 0$	400		1,200	
Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_C = 10mA, I_B = 1mA$	400		0.5	V
* Base-Emitter Saturation Voltage	$V_{BE (on)}$	$I_C = 10mA, V_{CE} = 5V$			0.8	V
Collector-Base Capacitance	C_{CB}	$V_{CB} = 5V, I_E = 0$ $f = 100KHz$			4	pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 500\mu A$ $f = 20MHz$	50			MHz
Noise Figure	N_F	$V_{CE} = 5V, I_C = 100\mu A$ $R_S = 10K\Omega$ $f = 10Hz$ to $15.7KHz$			2	dB

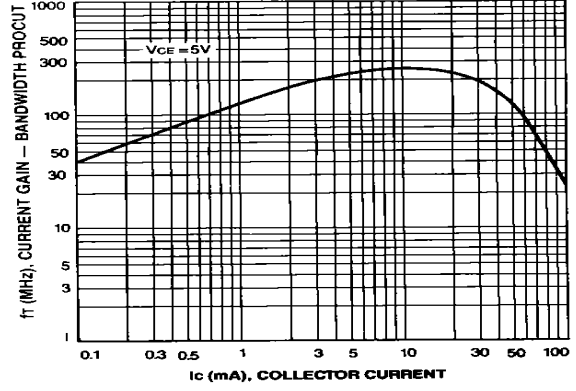
* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$



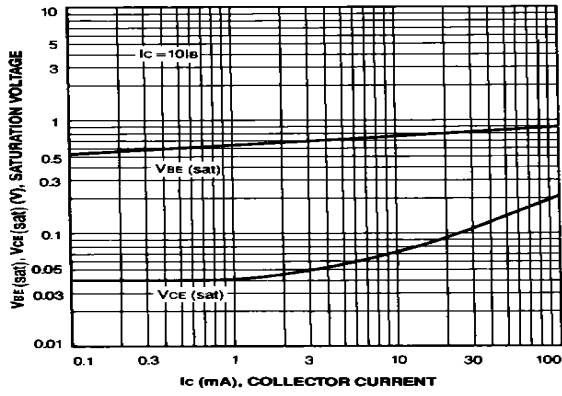
DC CURRENT GAIN



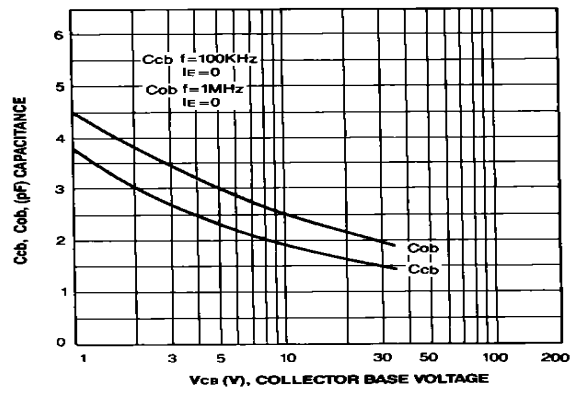
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE
COLLECTOR-BASE CAPACITANCE



NOISE FIGURE

