

Transistors

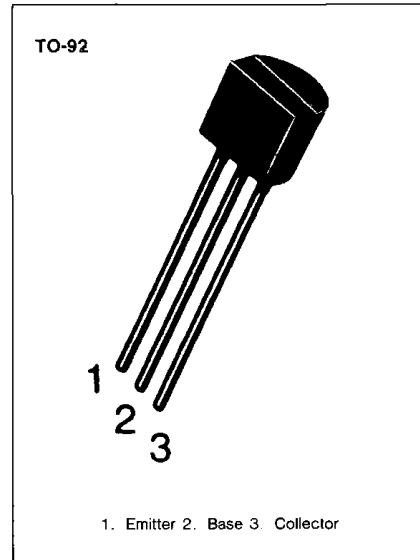
2N5087

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}	-3	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	$^\circ C$



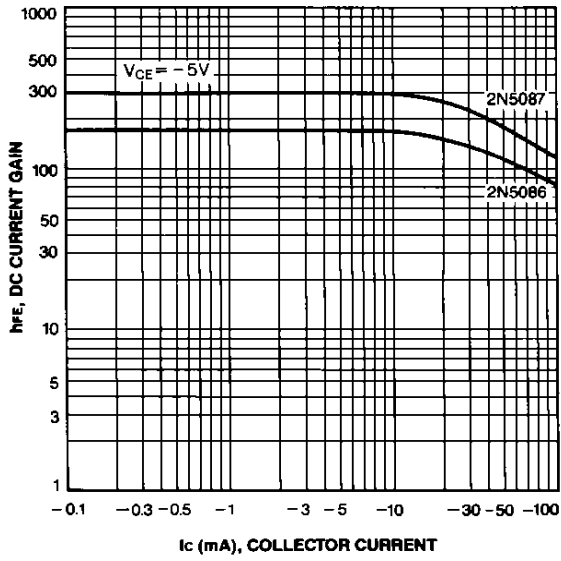
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-50			V
* Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-50			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -10V, I_E = 0$			-10	nA
		$V_{CB} = -35V, I_E = 0$			-50	nA
Base Cut-off Current	I_{EBO}	$V_{BE} = -3V, I_C = 0$			-50	nA
DC Current Gain	h_{FE}	$V_{CE} = -5V, I_C = -100\mu A$	250		800	
		$V_{CE} = -5V, I_C = -1mA$	250			
		* $V_{CE} = -5V, I_C = -10mA$	250			
Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_C = -10mA, I_B = -1mA$			-0.3	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	$V_{CE} = -5V, I_C = -500\mu A$ $f = 20MHz$	40			MHz
Noise Figures	N_F	$V_{CE} = -5V, I_C = -20\mu A$ $R_S = 10K\Omega$ $f = 10Hz$ to $15.7KHz$			2	dB
		$V_{CE} = -5V, I_C = -100\mu A$ $R_S = 3K\Omega, f = 1KHz$			2	dB

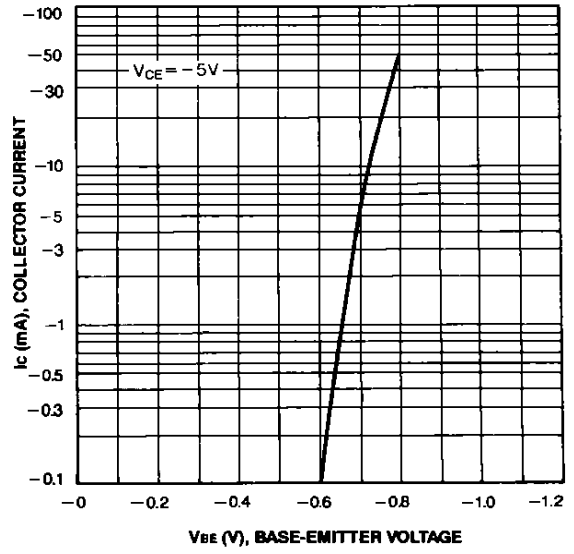
* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$



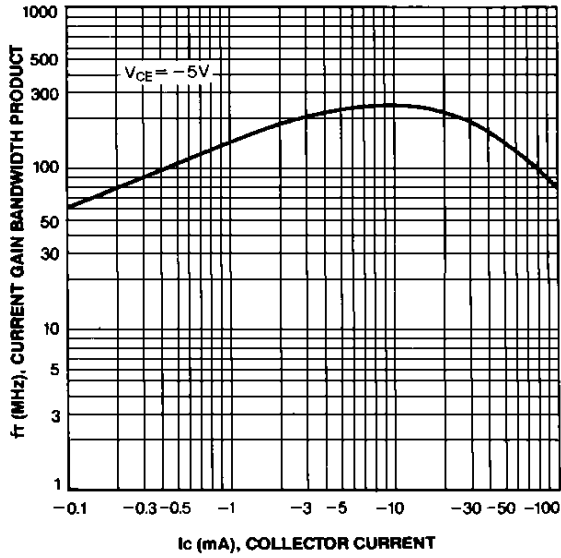
DC CURRENT GAIN



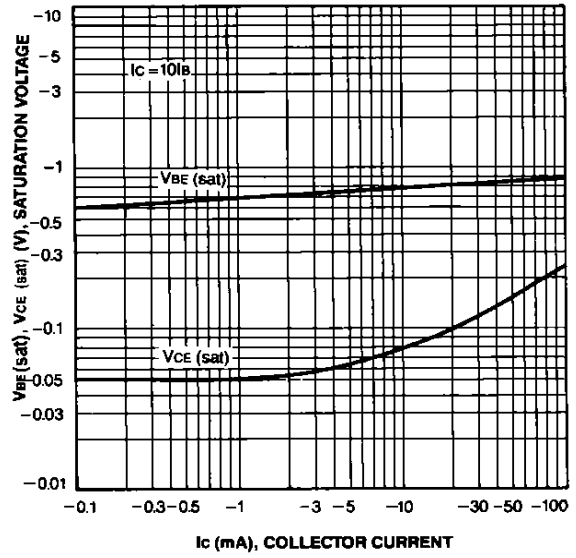
BASE-EMITTER ON VOLTAGE



CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR-BASE CAPACITANCE

