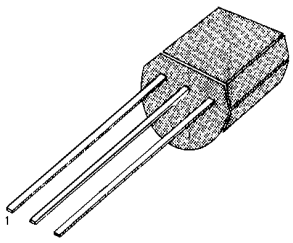
2N5088/5089 NPN EPITAXIAL SILICON TRANSISTOR

AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: V_{CEO}= 2N5088: 30V
  2N5089: 25V
- Collector Dissipation: P_C (max)=625mW

TO-92



1.Emitter 2. Base 3. Collector

ABSOLUTE MAXIMUM RATINGS (T_A=25℃)

Characteristic		Symbol	Rating	Unit
Collector-Base Voltage	:2N5088	V_{CBO}		
	2N5089		30	V
Collector-Emitter Voltage	:2N5088	V_{CEO}	30	V
	2N5089		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	℃
Storage Temperature		T_{STG}	-55 ~ 150	℃

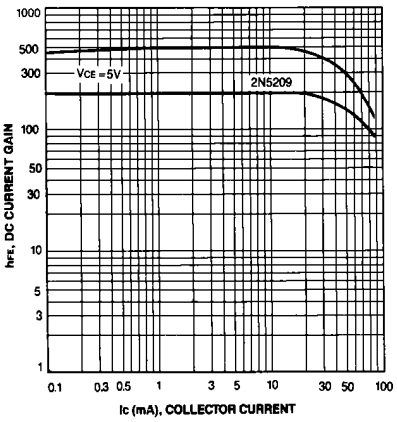
ELECTRICAL CHARACTERISTICS (T_A=25℃)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100㎂, I_E=0				
:2N5088			35			V
:2N5089			30			V
★Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0				
:2N5088			30			V
:2N5089			25			V
Collector Cut-off Current	I_{CBO}					
:2N4403		V_{CB}=20V, I_E=0			50	nA
:2N4402		V_{CB}=15V, I_E=0			5	nA
Base Cut-off Current	I_{EBO}	V_{BE}=3V, I_C=0			50	nA
		V_{BE}=4.5V, I_C=0			100	nA
★DC Current Gain	h_{FE}					
:2N5088		V_{CE}=5V, I_C=100㎂	300		900	
:2N5089			400		1,200	
:2N5088		V_{CE}=5V, I_C=1mA	350			
:2N5089			450			
:2N5088		★V_{CE}=5V, I_C=10mA	300			
:2N5089			400			
Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=10mA, I_B=1mA			0.5	V
★Base-Emitter Saturation Voltage	V_{BE} (on)	I_C=10mA, V_{CE}=5V			0.8	V
Current-Base Capacitance	C_{OB}	V_{CB}=5V, I_E=0 f=100MHz			4	pF
Current Gain Bandwidth Product	f_T	V_{CE}=5V, I_C=500㎂	50			MHz
Noise Figure	N_F	V_{CE}=5V, I_C=100㎂ R_S=10㏀ f=10Hz to 15.7KHz				
:2N5088					3	dB
:2N5089					2	dB

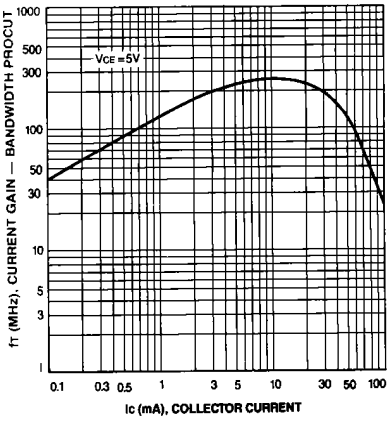
★Pulse Test: Pulse Width ≤ 300㎲, Duty Cycle ≤ 2%

SAMSUNG ELECTRONICS

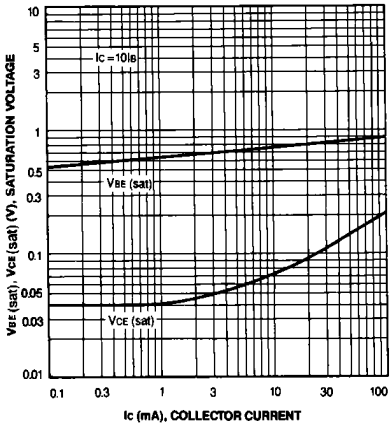
DC CURRENT GAIN



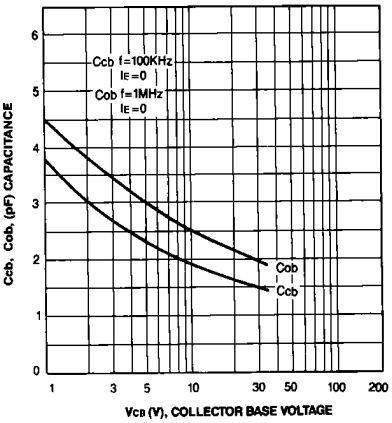
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE
COLLECTOR-BASE CAPACITANCE



NOISE FIGURE