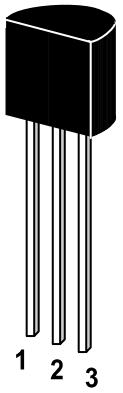
ST 2N5086 / 2N5087

PNP Silicon Epitaxial Planar Transistor
for switching and AF amplifier applications.

The transistor is subdivided into one group according to it DC current gain. As complementary type the NPN transistor ST 2N5088 and ST 2N5089 are recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	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
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to +150	°C

Characteristics at T_{amb} = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $-V_{CE}$=5V, $-I_C$=0.1mA	ST 2N5086	h_{FE}	150	-	500	-
	ST 2N5087	h_{FE}	200	-	800	-
at $-V_{CE}$=5V, $-I_C$= 1mA	ST 2N5086	h_{FE}	150	-	-	-
	ST 2N5087	h_{FE}	200	-	-	-
at $-V_{CE}$=5V, $-I_C$= 10mA	ST 2N5086	h_{FE}	150	-	-	-
	ST 2N5087	h_{FE}	200	-	-	-
Collector Base Breakdown Voltage at $-I_C$=100µA		$-V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$=1mA		$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E$=10µA		$-V_{(BR)EBO}$	3	-	-	V
Collector Cutoff Current at $-V_{CB}$=35V		$-I_{CBO}$	-	-	0.05	µA
Emitter Cutoff Current at $-V_{EB}$=3V		$-I_{EBO}$	-	-	0.05	µA
Collector Saturation Voltage at $-I_C$=10mA, $-I_B$=1mA		$-V_{CE(sat)}$	-	-	0.3	V
Base Emitter Voltage at $-V_{CE}$=5V, $-I_C$=1mA		$-V_{BE(on)}$	-	-	0.85	V
Gain Bandwidth Product at $-V_{CE}$=5V, $-I_C$=0.5mA		f_T	40	180	-	MHz
Output Capacitance at $-V_{CB}$=10V, f=1MHz		C_{OB}	-	2.8	-	pF
Noise Figure at $-V_{CE}$=6V, $-I_C$=0.3mA, f=100Hz, R_S=10KΩ		NF	-	-	3	dB

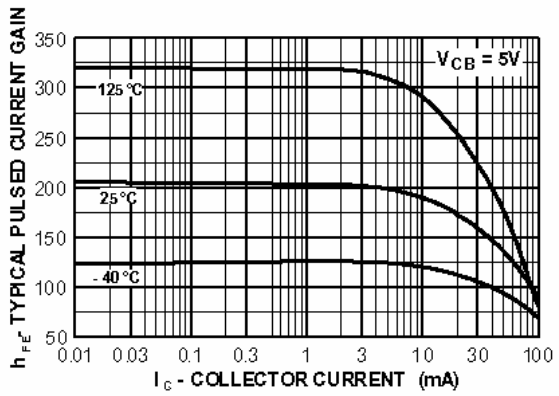


Figure 1. Typical Pulsed Current Gain vs Collector Current

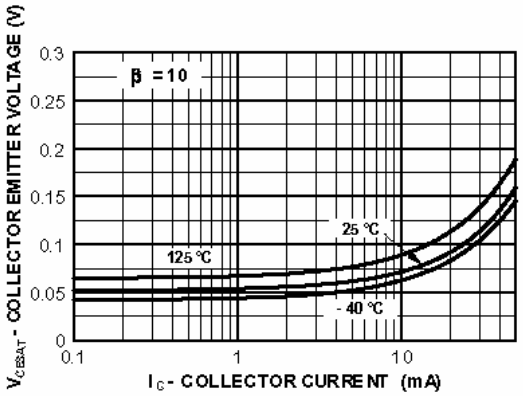


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

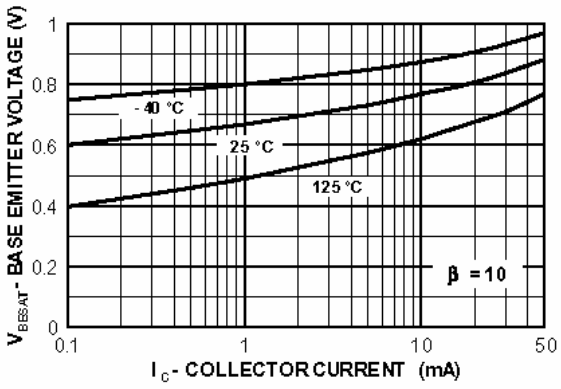


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

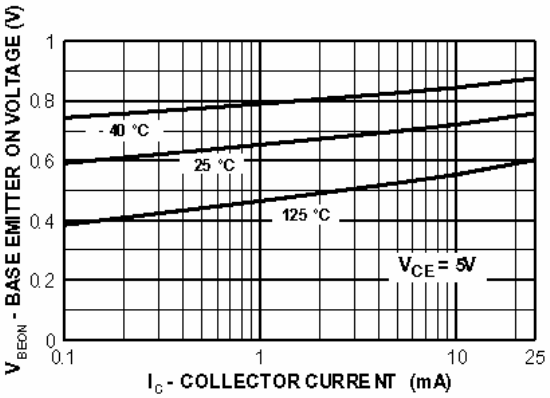


Figure 4. Base-Emitter On Voltage vs Collector Current

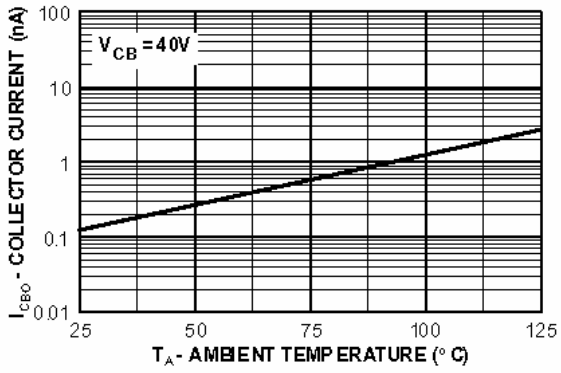


Figure 5. Collector Cutoff Current vs Ambient Temperature

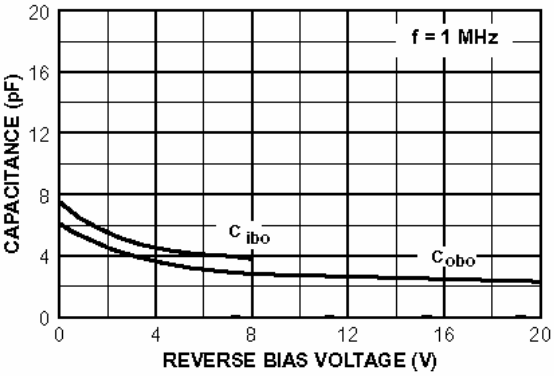


Figure 6. Input and Output Capacitance vs Reverse Voltag

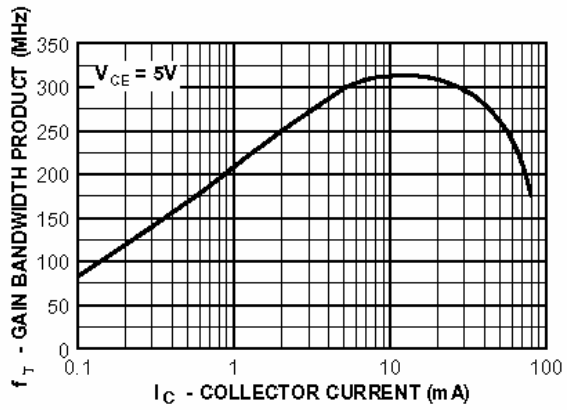


Figure 7. Gain Bandwidth Product vs Collector Current

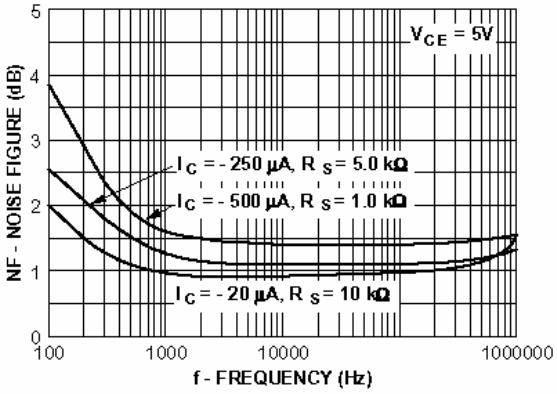


Figure 8. Noise Figure vs Frequency

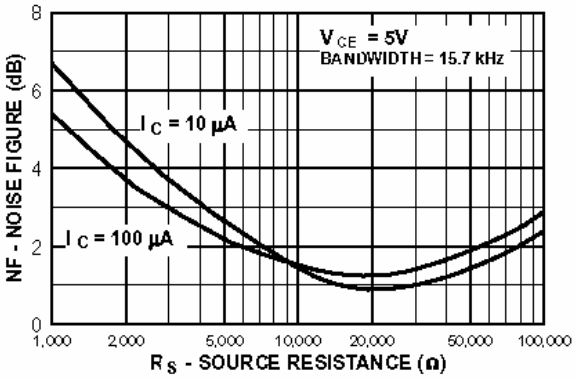


Figure 9. Wideband Noise Frequency vs Source Resistance

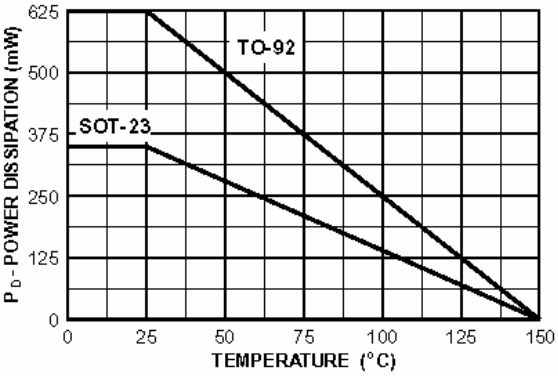


Figure 10. Power Dissipation vs Ambient Temperature

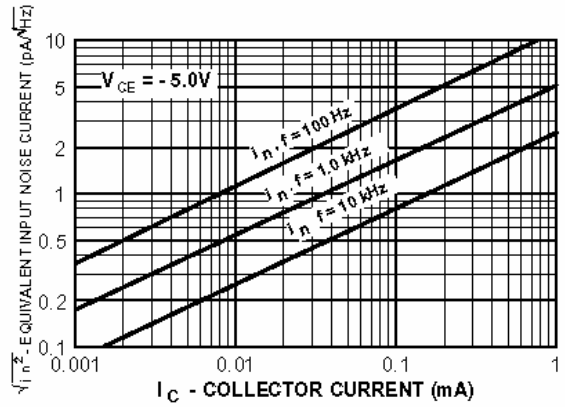


Figure 11. Equivalent Input Noise Current vs Collector Current

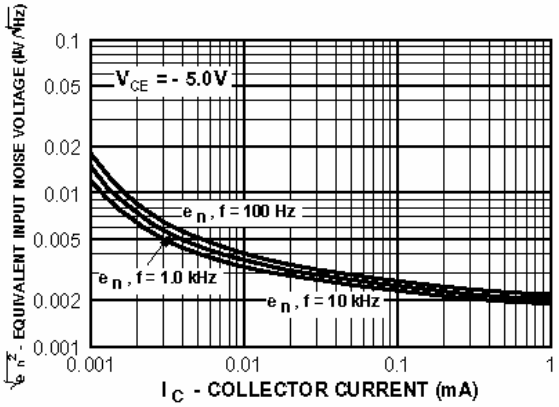


Figure 12. Equivalent Input Noise Voltage vs Collector Current

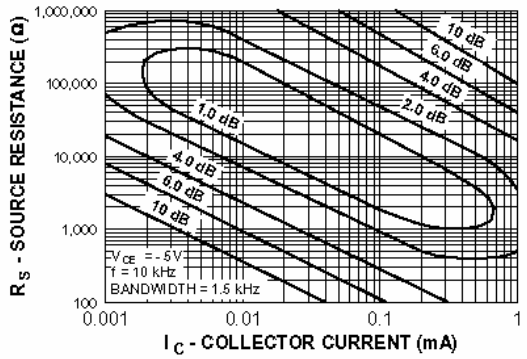


Figure 13. Contours of Constanct Narrow Band Noise Figure

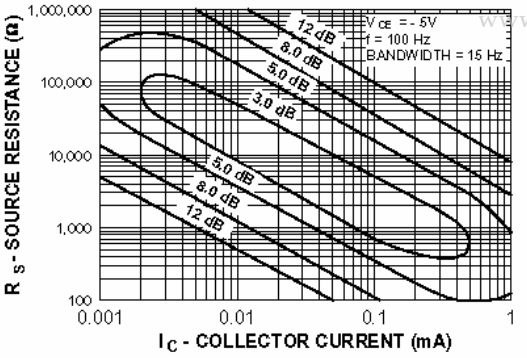


Figure 14. Contours of Constanct Narrow Band Noise Figure

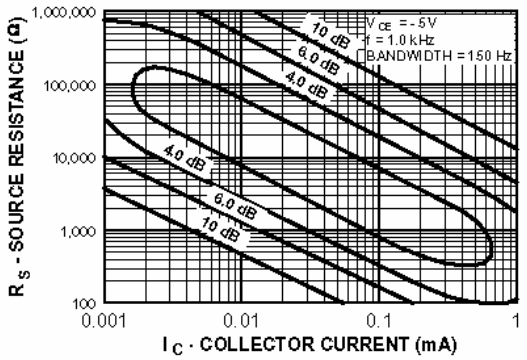


Figure 15. BContours of Constant Narrow Band Noise Figure

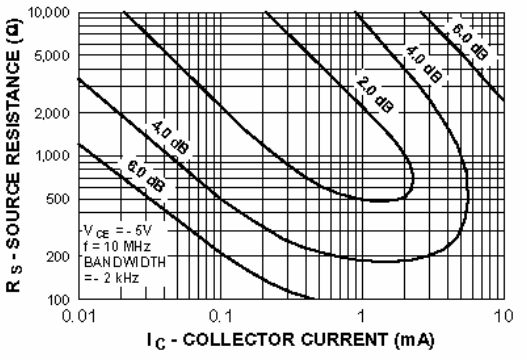
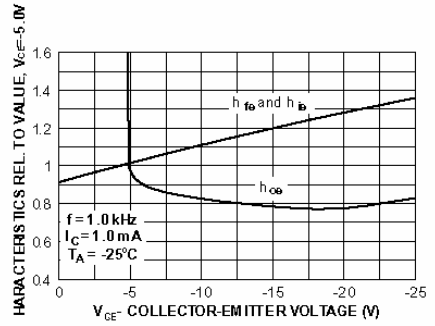
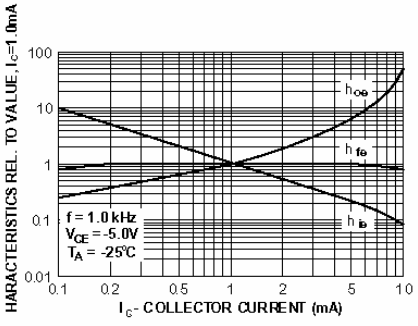


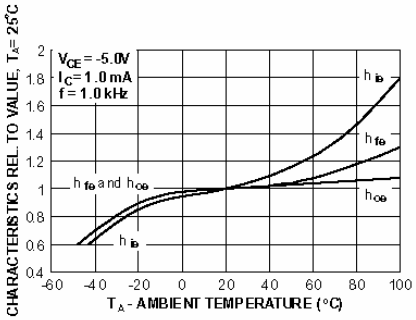
Figure 16. Contours of Constant Narrow Band Noisd Figure



Typical Common Emitter Characteristics



Typical Common Emitter Characteristics



Typical Common Emitter Characteristics