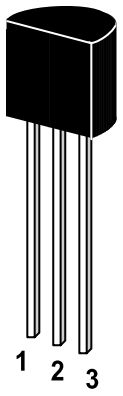
ST 2N5088 / 2N5089

NPN 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 PNP transistor ST 2N5086 and ST 2N5087 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

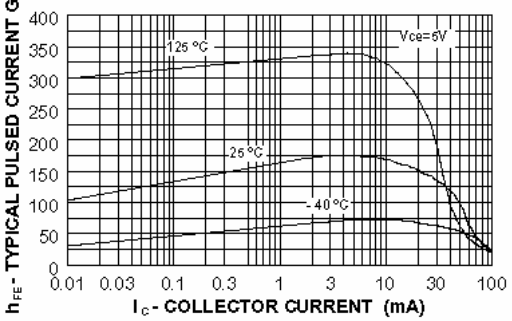
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	35	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	4.5	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

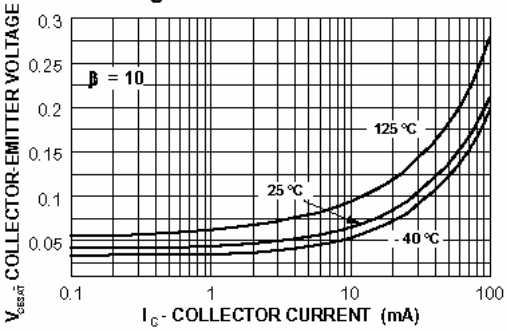
Characteristics at T_{amb}=25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE}=5V, I_C=0.1mA	ST 2N5088	h_{FE}	300	-	900	-
	ST 2N5089	h_{FE}	400	-	1200	-
at V_{CE}=5V, I_C=1mA	ST 2N5088	h_{FE}	300	-	-	-
	ST 2N5089	h_{FE}	400	-	-	-
at V_{CE}=5V, I_C=10mA	ST 2N5088	h_{FE}	300	-	-	-
	ST 2N5089	h_{FE}	400	-	-	-
Collector Base Breakdown Voltage at I_C=100µA		$V_{(BR)CBO}$	35	-	-	V
Collector Emitter Breakdown Voltage at I_C=1mA		$V_{(BR)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at I_E=10µA		$V_{(BR)EBO}$	4.5	-	-	V
Collector Cutoff Current at V_{CB}=35V		I_{CBO}	-	-	0.05	µA
Emitter Cutoff Current at V_{EB}=4.5V		I_{EBO}	-	-	0.05	µA
Collector Saturation Voltage at I_C=10mA, I_B=1mA		$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Voltage at V_{CE}=5V, I_C=10mA		$V_{BE(on)}$	-	-	0.8	V
Gain Bandwidth Product at V_{CE}=5V, I_C=0.5mA		f_T	50	180	-	MHz
Output Capacitance at V_{CB}=10V, f=1MHz		C_{OB}	-	-	4	pF
Noise Figure at V_{CE}=6V, I_C=0.3mA, f=100Hz, R_S=10KΩ		NF	-	-	3	dB

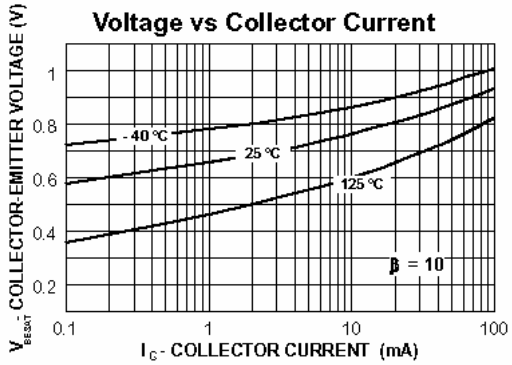
Typical Pulsed Current Gain vs Collector Current



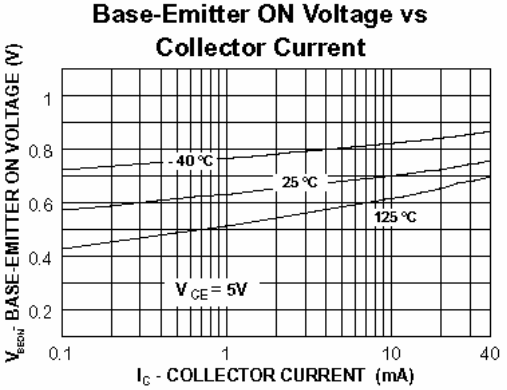
Collector-Emitter Saturation Voltage vs Collector Current



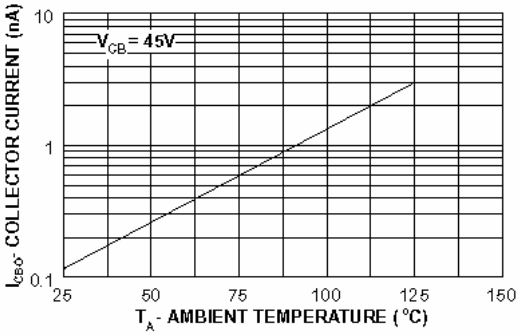
Base-Emitter Saturation Voltage vs Collector Current



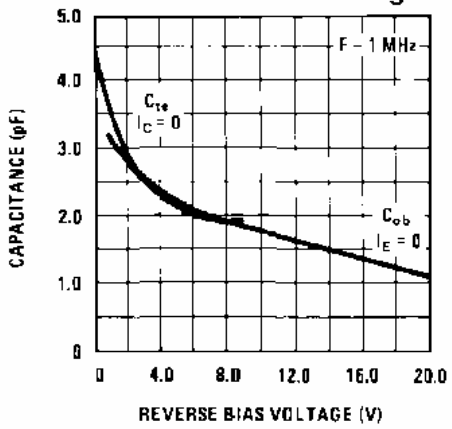
Base-Emitter ON Voltage vs Collector Current



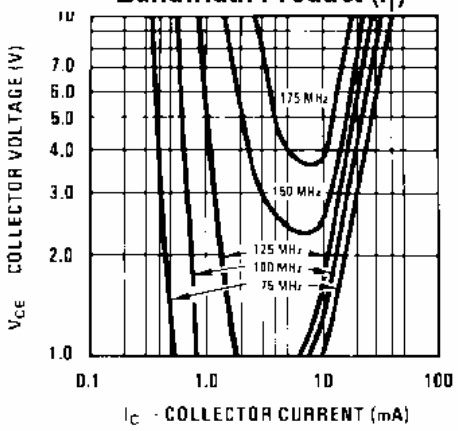
Collector-Cutoff Current vs Ambient Temperature



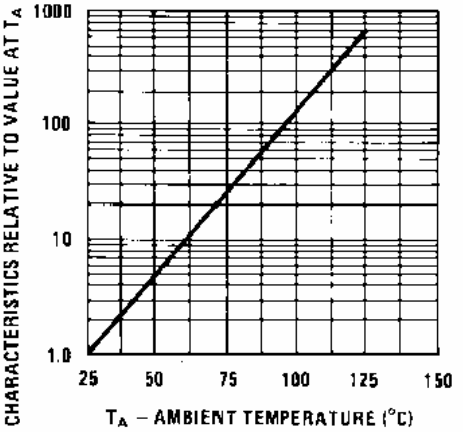
Input / Output Capacitance vs. Reverse Bias Voltage



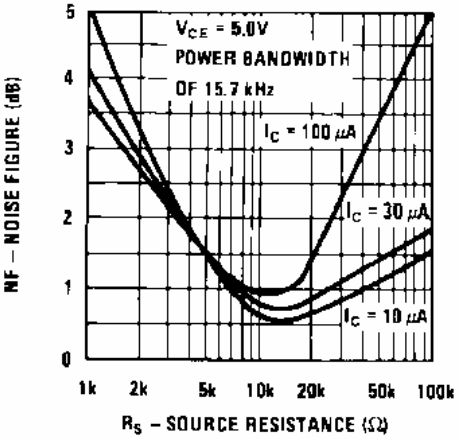
Contours of Constant Gain Bandwidth Product (f_T)



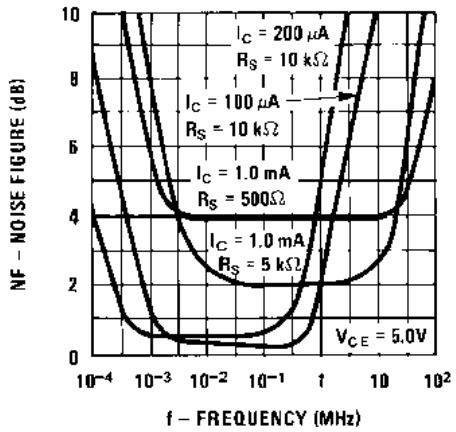
Normalized Collector Cutoff Current vs. Ambient Temperature



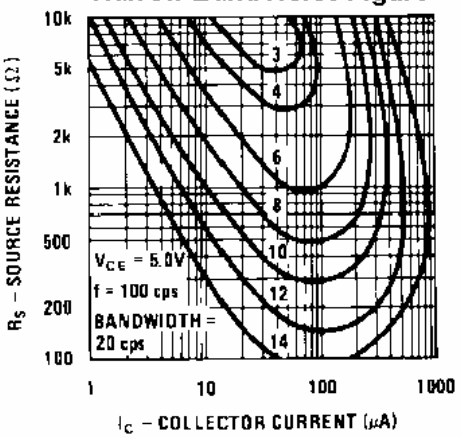
Wideband Noise Figure vs. Source Resistance



Noise Figure vs. Frequency



Contours of Constant Narrow Band Noise Figure



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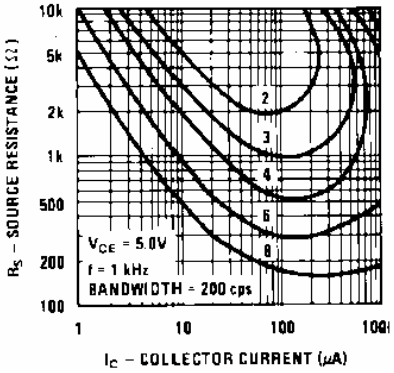

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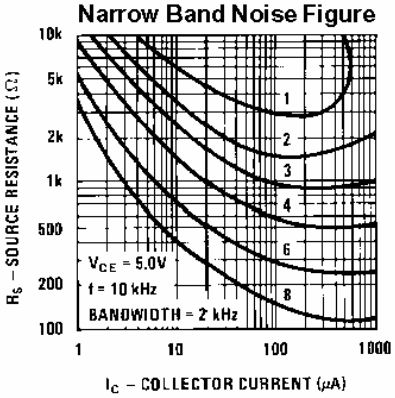

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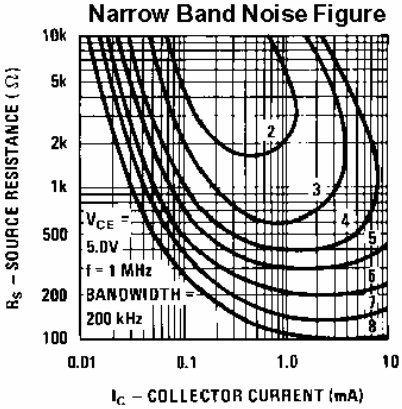

Maximum Power Dissipation vs. Ambient Temperature