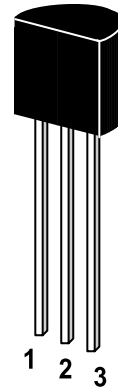


ST 2N5088 / 2N5089

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

The transistor is subdivided into one group according to its 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.

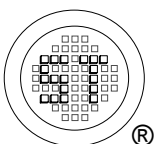


1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$



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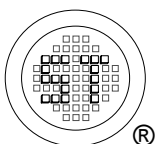
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ISO 14001:2004 Certificate No. 014
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ST 2N5088 / 2N5089

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Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

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



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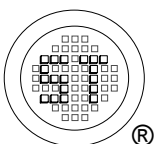
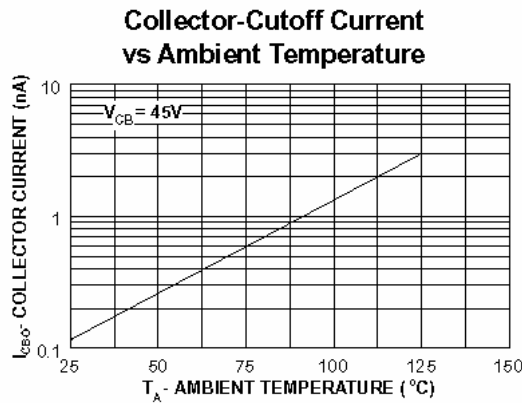
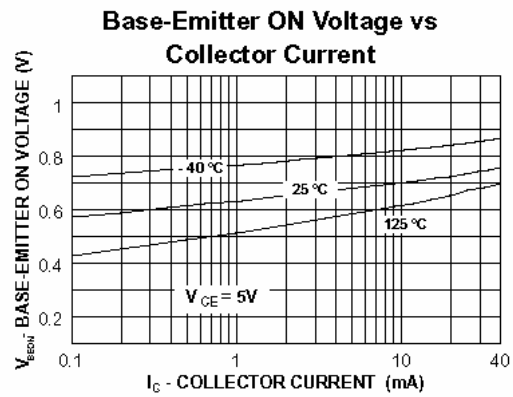
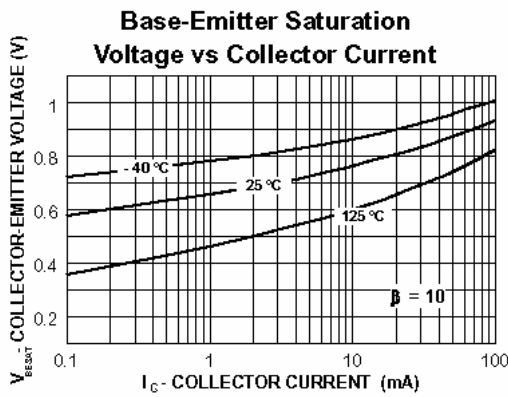
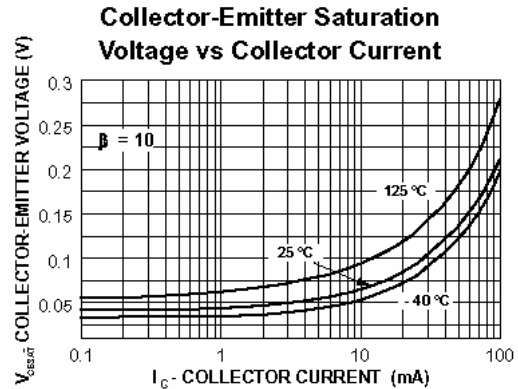
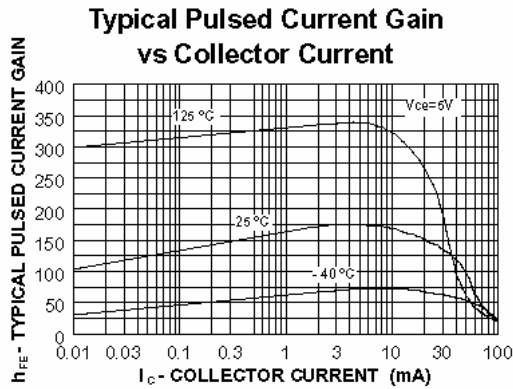
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Certificate No. 014



ISO 9001:2000
Certificate No. 014

Dated : 02/12/2005

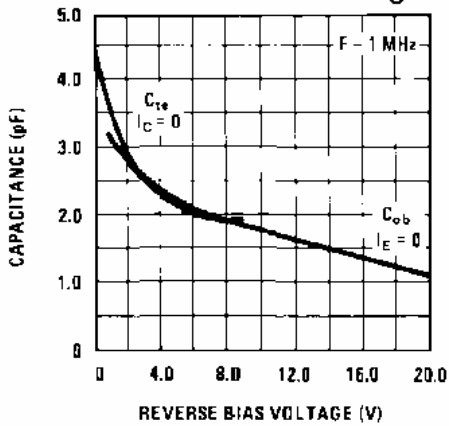
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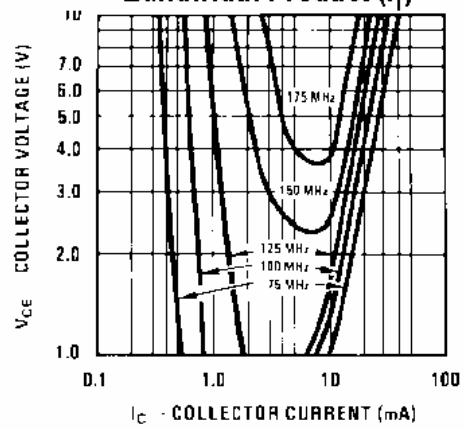
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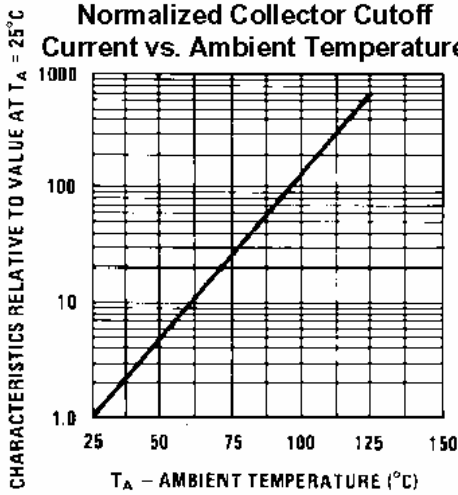
Input / Output Capacitance vs. Reverse Bias Voltage



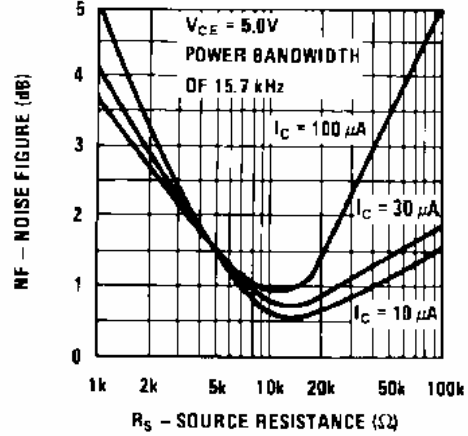
Contours of Constant Gain Bandwidth Product (f_T)



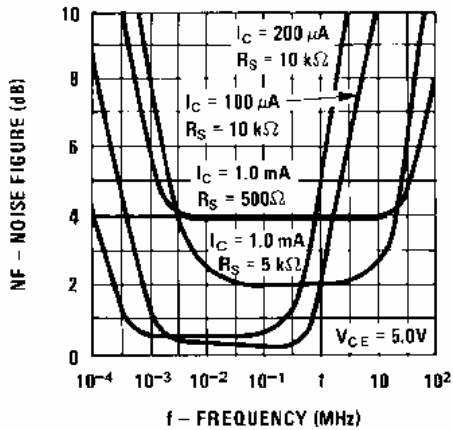
Normalized Collector Cutoff Current vs. Ambient Temperature



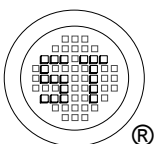
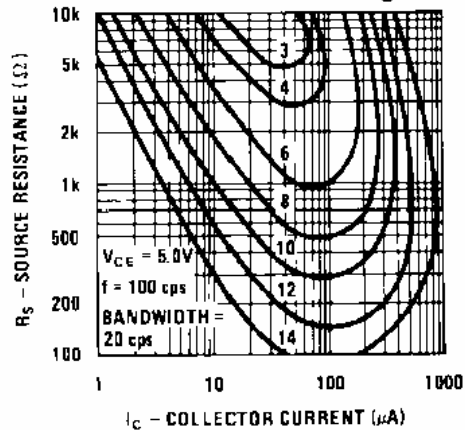
Wideband Noise Figure vs. Source Resistance



Noise Figure vs. Frequency



Contours of Constant Narrow Band Noise Figure



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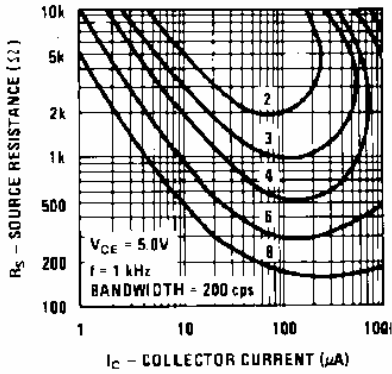


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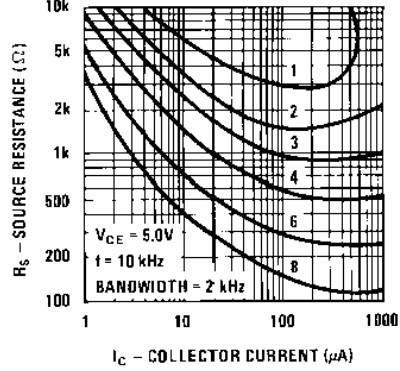
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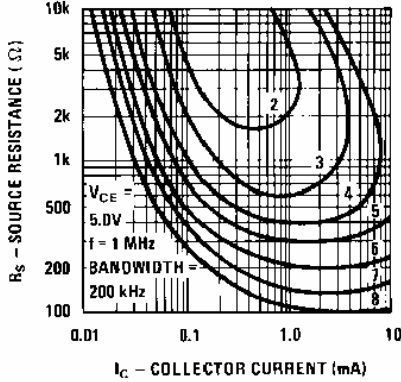
Contours of Constant Narrow Band Noise Figure



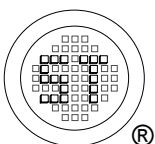
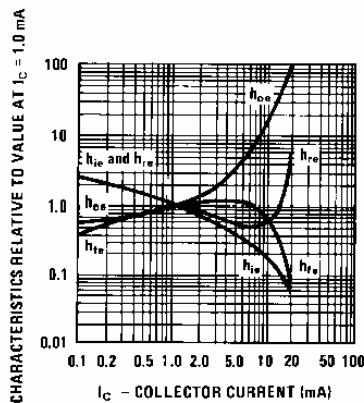
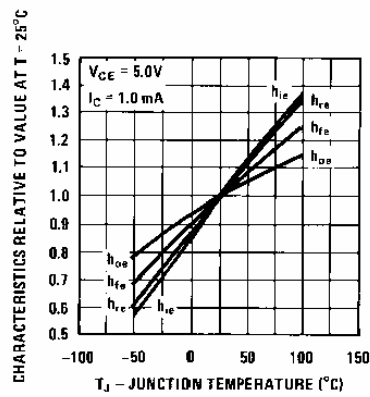
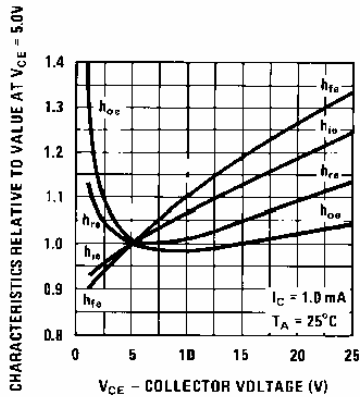
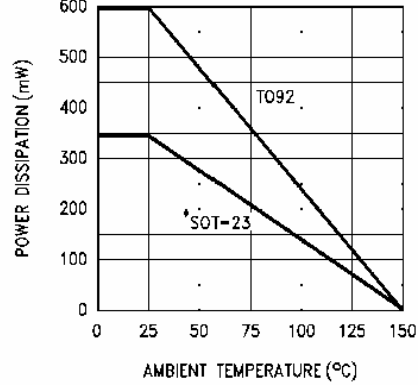
Contours of Constant Narrow Band Noise Figure



Contours of Constant Narrow Band Noise Figure



Maximum Power Dissipation vs. Ambient Temperature



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