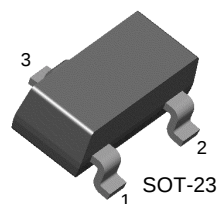


KST5088/5089

Low Noise Transistor



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: KST5088	35	V
	: KST5089	30	V
V_{CEO}	Collector-Emitter Voltage		
	: KST5088	30	V
	: KST5089	25	V
V_{EBO}	Emitter-Base Voltage	4.5	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	150	$^\circ\text{C}$

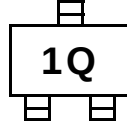
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}$, $I_E=0$			
	: KST5088		35		V
	: KST5089		30		V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}$, $I_B=0$			
	: KST5088		30		V
	: KST5089		25		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=20\text{V}$, $I_E=0$		50	nA
	: KST5089	$V_{CB}=15\text{V}$, $I_E=0$		50	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=3\text{V}$, $I_C=0$		50	nA
h_{FE}	DC Current Gain	$V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$	300	900	
	: KST5088		400	1,200	
	: KST5089	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	350		
	: KST5088		450		
	: KST5089	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$	300		
			400		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}$, $I_B=1\text{mA}$		0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{mA}$, $I_B=1\text{mA}$		0.8	V
f_T	Current Gain-Bandwidth Product	$V_{CE}=5\text{V}$, $I_C=500\mu\text{A}$, $f=20\text{MHz}$	50		MHz
C_{ob}	Output Capacitance	$V_{CB}=5\text{V}$, $I_E=0$, $f=100\text{KHz}$		4	pF
NF	Noise Figure				
	: KST5088	$I_C=100\mu\text{A}$, $V_{CE}=5\text{V}$		3	dB
	: KST5089	$R_S=10\text{K}\Omega$, $f=10\text{Hz}$ to 15.7KHz		2	dB

Marking Code

Type	KST5088	KST5089
Mark	1Q	1R

Marking



Typical Characteristics

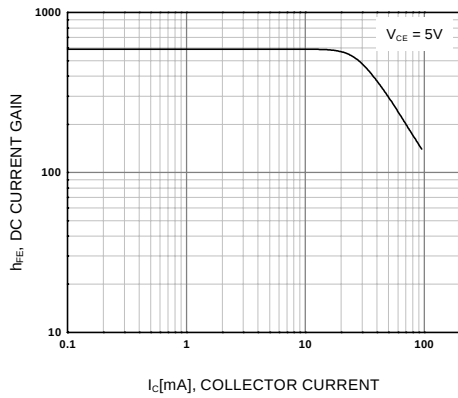


Figure 1. DC current Gain

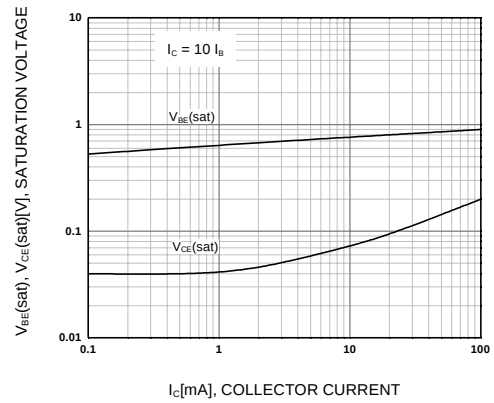


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

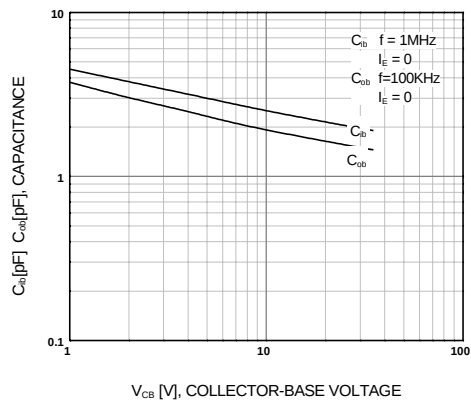


Figure 3. Output Capacitance
Collector-Base Capacitance

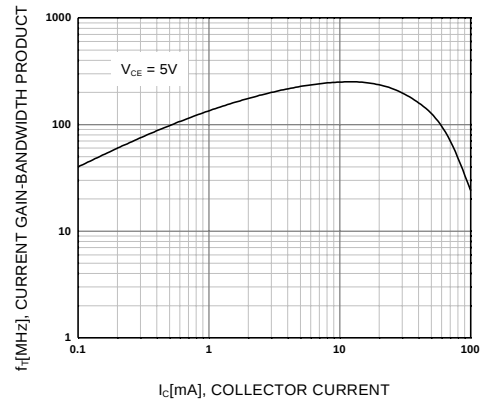
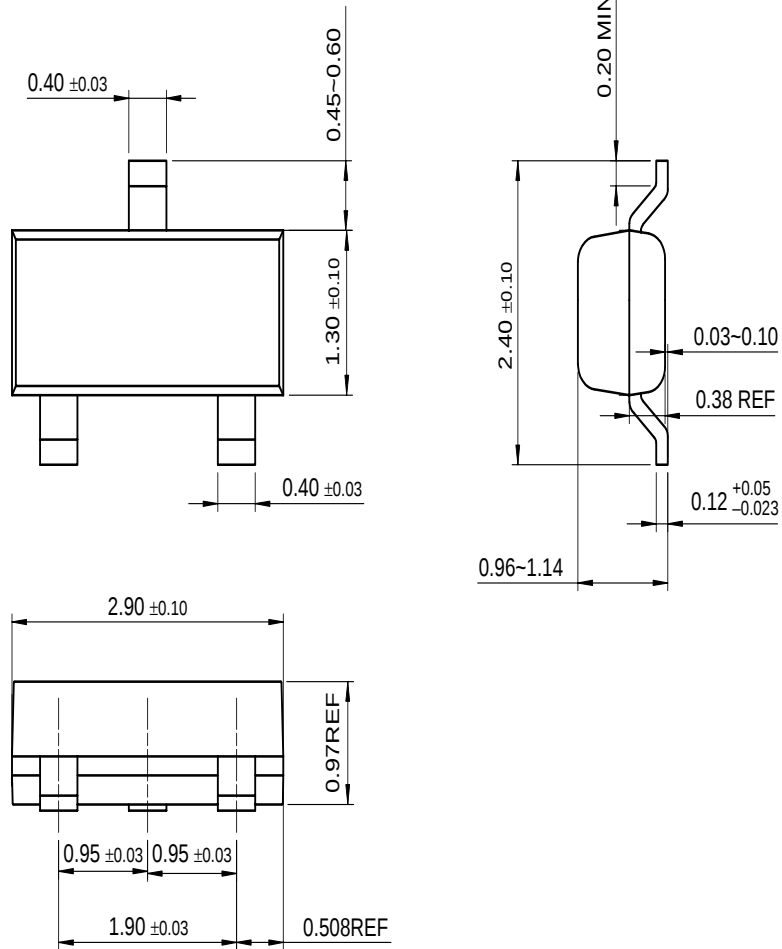


Figure 4. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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