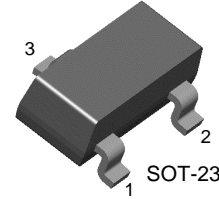


# KST5086/5087

## Low Noise Transistor



1. Base 2. Emitter 3. Collector

## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-3	V
$I_C$	Collector Current	-50	mA
$P_C$	Collector Power Dissipation	350	mW
$T_{STG}$	Storage Temperature	150	$^\circ\text{C}$

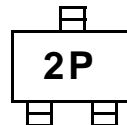
### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-50		V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-50		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -20\text{V}, I_E = 0$		-50	nA
$h_{FE}$	DC Current Gain				
	: KST5086	$V_{CE} = -5\text{V}, I_C = -100\mu\text{A}$	150	500	
	: KST5087		250	800	
	: KST5086	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	150		
	: KST5087		250		
	: KST5086	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	150		
	: KST5087		250		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$		-0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$		-0.85	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -5\text{V}, I_C = -500\mu\text{A}$ $f = 20\text{MHz}$	40		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -5\text{V}, I_E = 0$ $f = 100\text{MHz}$		4	pF
NF	Noise Figure				
	: KST5086	$I_C = -100\mu\text{A}, V_{CE} = -5\text{V}$ $R_S = 3\text{K}\Omega, f = 1\text{KHz}$		3	dB
	: KST5087			2	dB
	: KST5087	$V_{CE} = -5\text{V}, I_C = -20\text{mA}$ $R_S = 10\text{K}\Omega, f = 10\text{Hz to } 15.7\text{KHz}$		2	dB

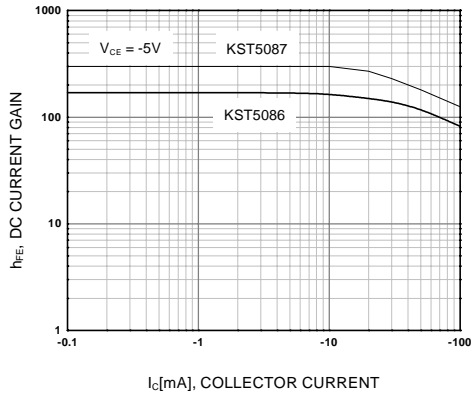
### Marking Code

Type	KST5086	KST5087
Mark	2P	2Q

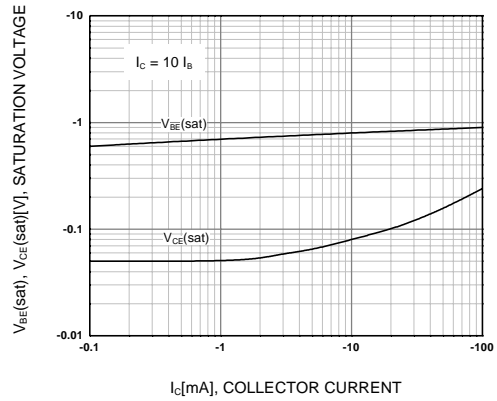
Marking



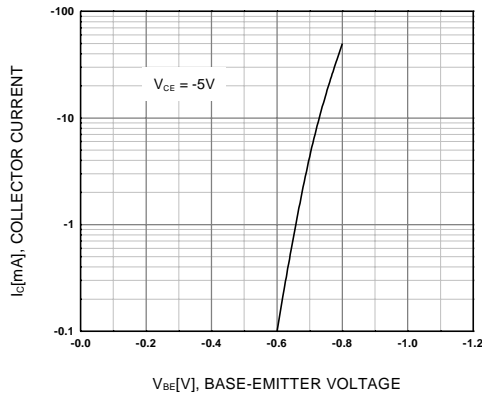
# Typical Characteristics



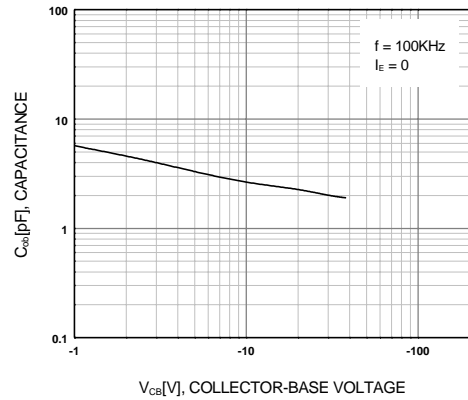
**Figure 1. DC current Gain**



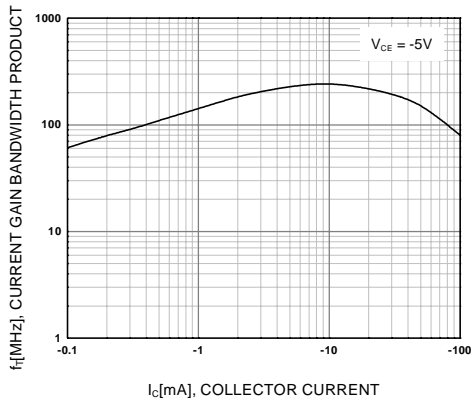
**Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Figure 3. Base-Emitter On Voltage**



**Figure 4. Output Capacitance**



**Figure 5. Current Gain Bandwidth Product**

# Package Dimensions

## SOT-23

KST5086/5087



Dimensions in Millimeters

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ActiveArray <sup>™</sup>	FACT Quiet series <sup>™</sup>	ISOPLANAR <sup>™</sup>	POP <sup>™</sup>	Stealth <sup>™</sup>
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CoolFET <sup>™</sup>	FAST <sup>r</sup> <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
CROSSVOLT <sup>™</sup>	FRFET <sup>™</sup>	MicroPak <sup>™</sup>	QFET <sup>™</sup>	SuperSOT <sup>™</sup> -8
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The Power Franchise <sup>™</sup>		OPTOLOGIC <sup>®</sup>	SILENT SWITCHER <sup>®</sup>	VCX <sup>™</sup>
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