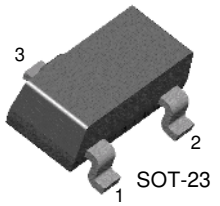
FAIRCHILD
SEMICONDUCTOR®

KST5086/5087

Low Noise Transistor



SOT-23

1. Base 2. Emitter 3. Collector

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°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	°C

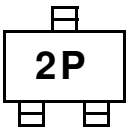
Electrical Characteristics T_a=25°C unless otherwise noted

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

Marking Code

Type	KST5086	KST5087
Mark	2P	2Q

Marking



Typical Characteristics

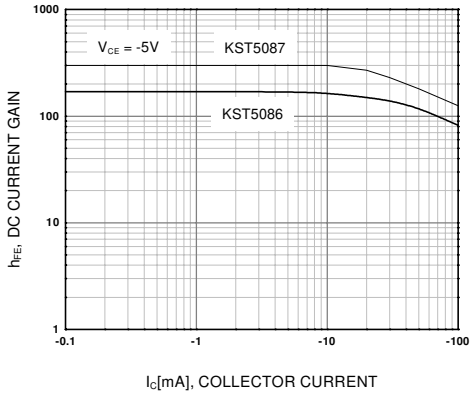


Figure 1. DC current Gain

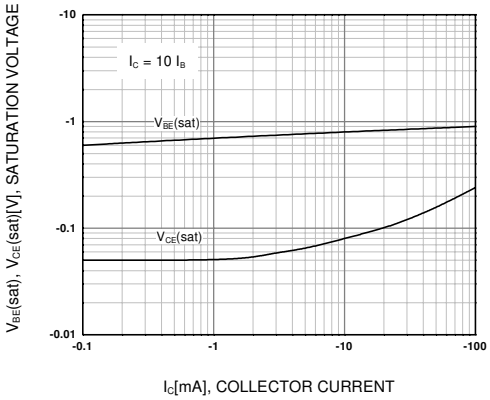


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

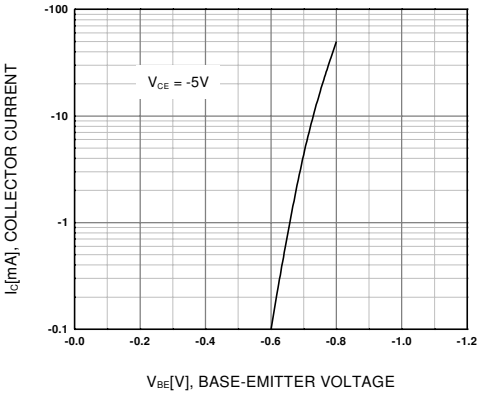


Figure 3. Base-Emitter On Voltage

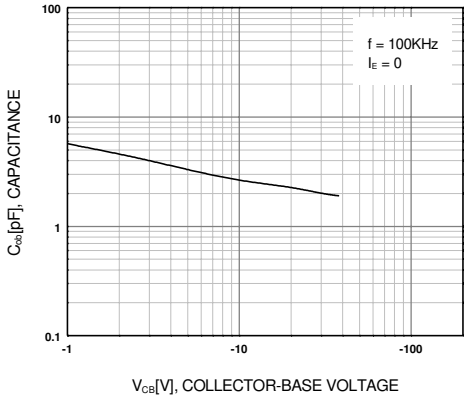


Figure 4. Output Capacitance

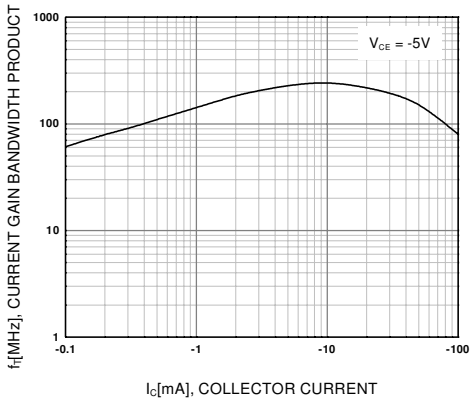
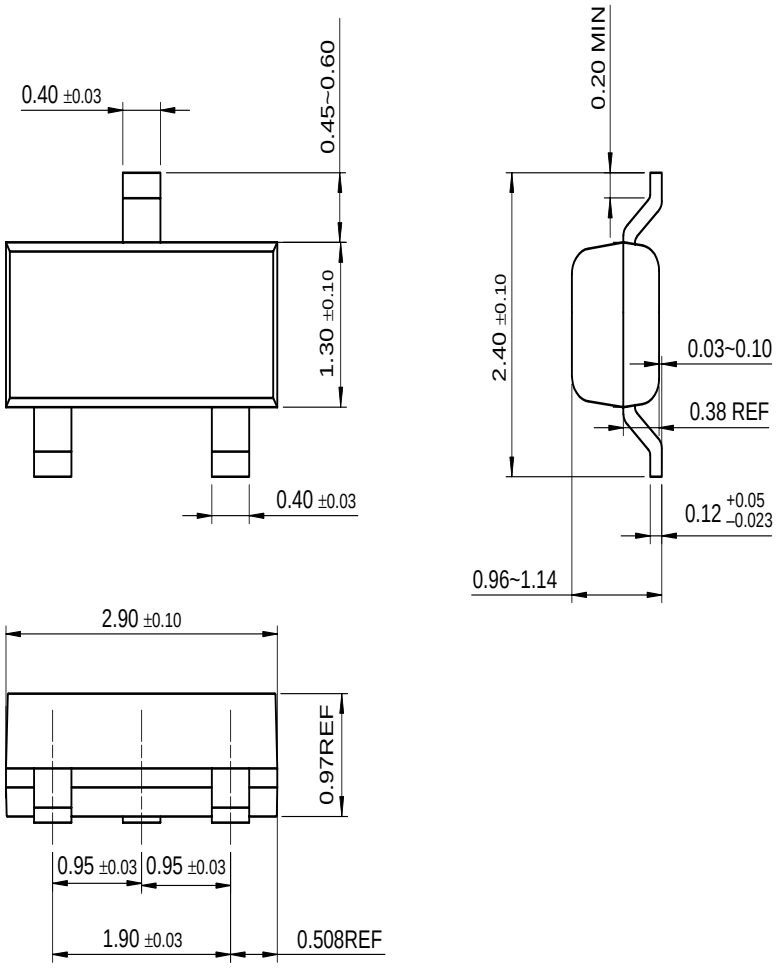


Figure 5. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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