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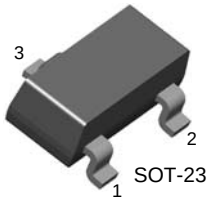
FAIRCHILD SEMICONDUCTOR®

September 2010

KST3906
PNP Epitaxial Silicon Transistor

Features

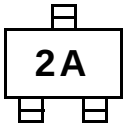
- General Purpose Transistor



SOT-23

1. Base 2. Emitter 3. Collector

Marking



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-200	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.	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	I_C= -10μA, I_E=0	-40		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	I_C= -1.0mA, I_B=0	-40		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E= -10μA, I_C=0	-5		V
I_{CEX}	Collector Cut-off Current	V_{CE}= -30V, V_{EB}= -3V		-50	nA
h_{FE}	* DC Current Gain	V_{CE}= -1V, I_C= -0.1mA V_{CE}= -1V, I_C= -1mA V_{CE}= -1V, I_C= -10mA V_{CE}= -1V, I_C= -50mA V_{CE}= -1V, I_C= -100mA	60 80 100 60 30	300	
V_{CE} (sat)	* Collector-Emitter Saturation Voltage	I_C= -10mA, I_B= -1.0mA I_C= -50mA, I_B= -5.0mA		-0.25 -0.4	V V
V_{BE} (sat)	* Base-Emitter Saturation Voltage	I_C= -10mA, I_B= -1.0mA I_C= -50mA, I_B= -5.0mA	-0.65	-0.85 -0.95	V V
f_T	Current Gain Bandwidth Product	I_C= -10mA, V_{CE}= -20V, f=100MHz	250		MHz
C_{ob}	Output Capacitance	V_{CB}= -5V, I_E=0, f=1.0MHz		4.5	pF
NF	Noise Figure	I_C= -100μA, V_{CE}= -5V R_S=1KΩ, f=10Hz to 15.7KHz		4	dB
t_{ON}	Turn On Time	V_{CC}= -3V, V_{BE}= -0.5V I_C= -10mA, I_{B1}= -1mA		70	ns
t_{OFF}	Turn Off Time	V_{CC}= -3V, I_C= -10mA I_{B1}=I_{B2}= -1mA		300	ns

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

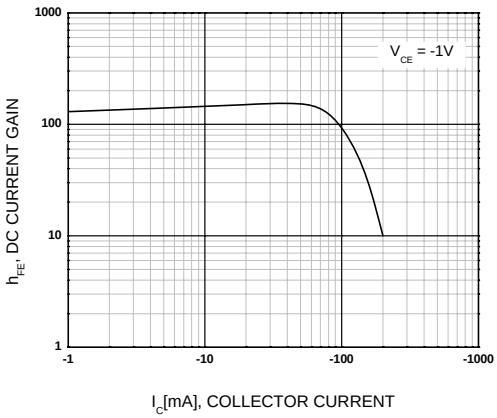


Figure 1. DC current Gain

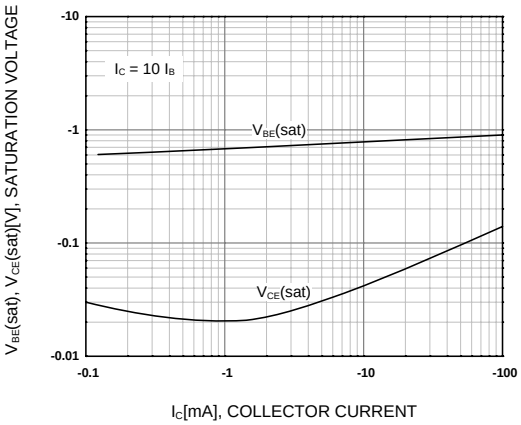


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

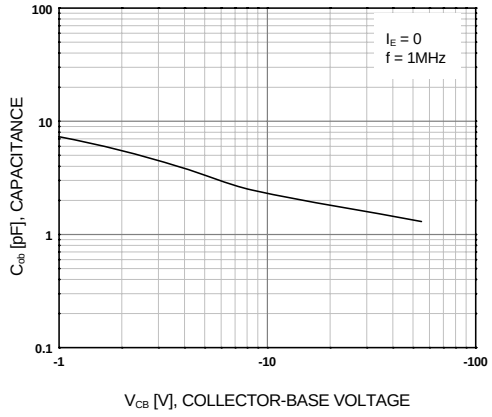


Figure 3. Output Capacitance

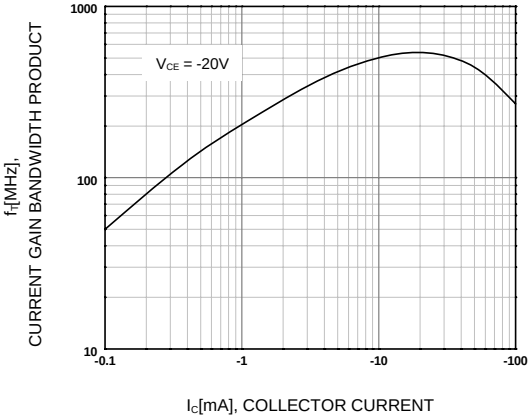
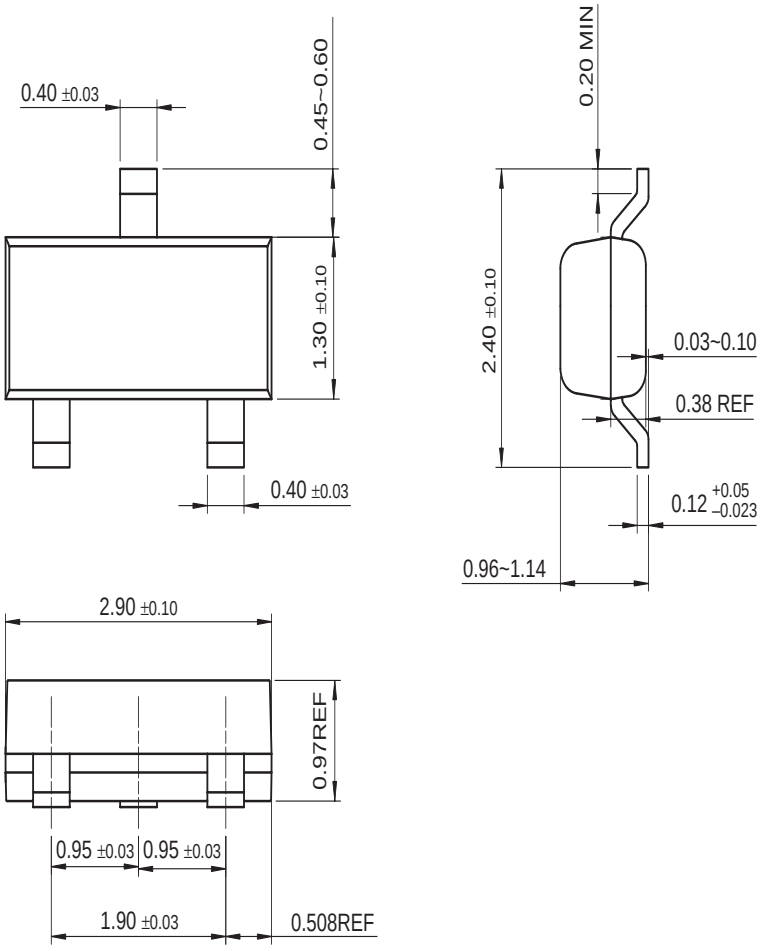


Figure 4. Current Gain Bandwidth Product

Physical Dimensions

SOT-23



Dimensions in Millimeters

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Rev. I49

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