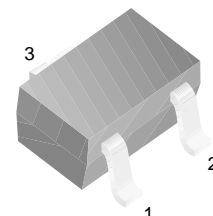


FJX3904

NPN Epitaxial Silicon Transistor

- General Purpose Transistor



1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	60	V
V _{CES}	Collector-Emitter Voltage	40	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current	200	mA
P _C	Collector Power Dissipation	350	mW
T _{STG}	Storage Temperature	-55 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics* T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	I _C =10μA, I _E =0	60		V
BV _{CEO}	* Collector-Emitter Breakdown Voltage	I _C =1mA, I _B =0	40		V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E =10μA, I _C =0	6		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	40 70 100 60 30	300	
V _{CE(sat)}	* Collector-Emitter Saturation Voltage	I _C =10mA, I _B =1mA I _C =50mA, I _B =5mA		0.2 0.3	V V
V _{BE(sat)}	* Base-Emitter Saturation Voltage	I _C =10mA, I _B =1mA I _C =50mA, I _B =5mA	0.65	0.85 0.95	V V
C _{ob}	Output Capacitance	V _{CB} =5V, I _E =0, f=1MHz		4	pF
f _T	Current Gain Bandwidth Product	V _{CE} =20V, I _C =10mA	300		MHz
NF	Noise Figure	I _C =100μA, V _{CE} =5V, R _S =1KΩ f=10Hz to 15.7KHz		5	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		250	ns

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Package Marking and Ordering Information

Device Item (note)	Device Marking	Package	Packing Method	Qty(pcs)
FJX3904TF	S1A	SOT-323	TAPE & REEL	3,000

Note : The Suffix "-TF" means Tape& Reel packing method, which can be on fairchildsemi website at <http://www.fairchildsemi.com/packaging>

Typical Performance Characteristics

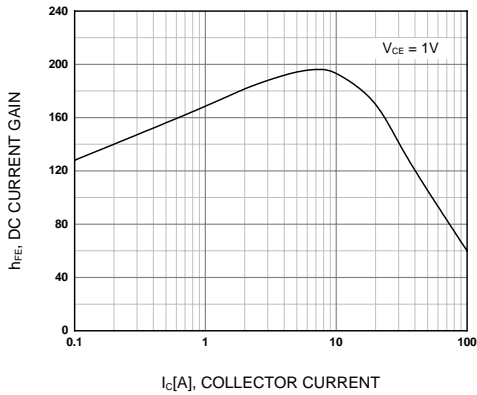


Figure 1. DC current Gain

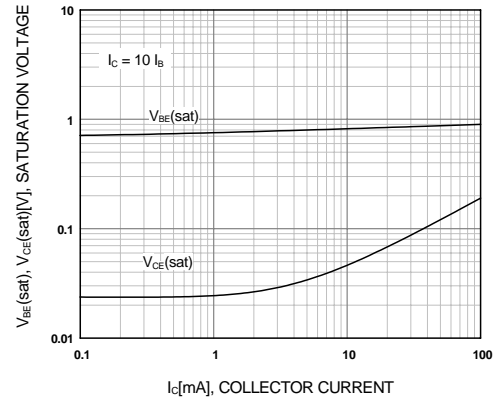


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

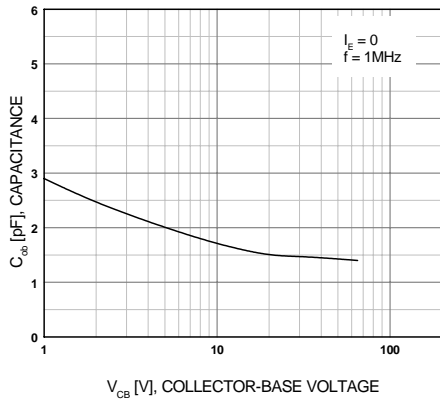


Figure 3. Output Capacitance

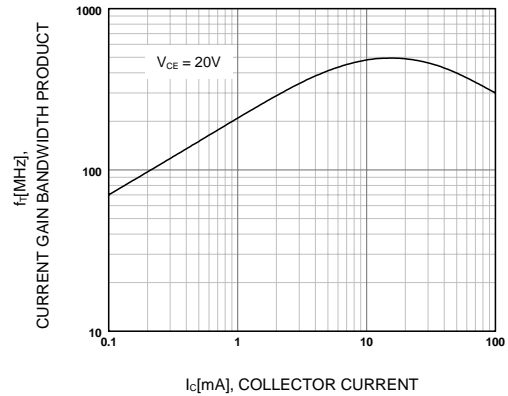
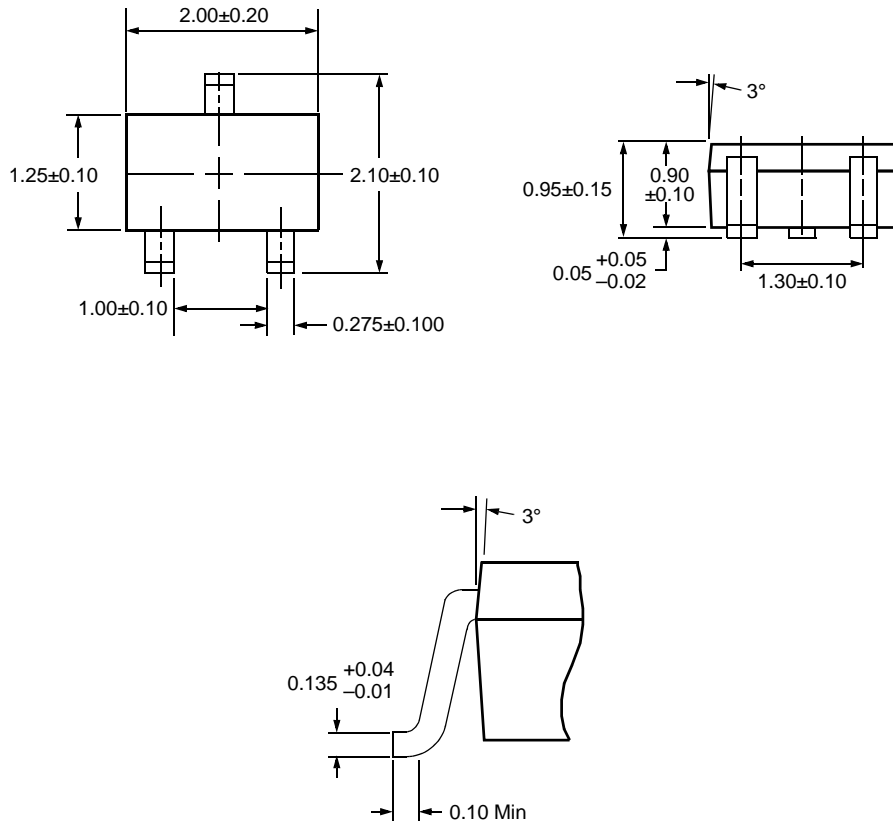


Figure 4. Current Gain Bandwidth Product

Mechanical Dimensions

SOT-323



Dimensions in Millimeters

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EnSigna™	LittleFET™	PowerTrench®	TCM™	
FACT®	MICROCOUPLER™	QFET®	TinyBoost™	
FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
FPST™	MICROWIRE™	Quiet Series™	TinyPower™	
FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
Across the board. Around the world.™		μSerDes™	TruTranslation™	
The Power Franchise®		ScalarPump™	UHC®	
Programmable Active Droop™				

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
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