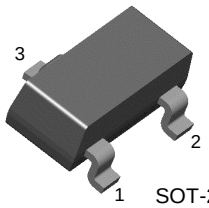
FAIRCHILD
SEMICONDUCTOR®

KSC2757

Mixer Oscillator for VHF Tuner

- High Current Gain Bandwidth Product : f_T=1100MHz (TYP)



SOT-23

1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ +150	°C

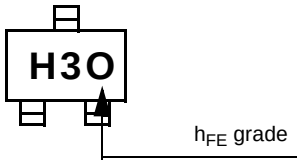
Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB}=12V, I_E=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=10V, I_C=5mA	60	120	240	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=1mA			0.5	V
f_T	Current Gain Bandwidth Product	V_{CE}=10V, I_C=5mA	800	1100		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0, f=1MHz			1.5	pF
$C_{c\cdot rbb'}$	Noise Figure	V_{CE}=10V, I_C=5mA f=31.9MHz		10	1.5	ps

h_{FE} Classification

Classification	R	O	Y
h_{FE}	60 ~ 120	90 ~ 180	120 ~ 240

Marking



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Typical Characteristics

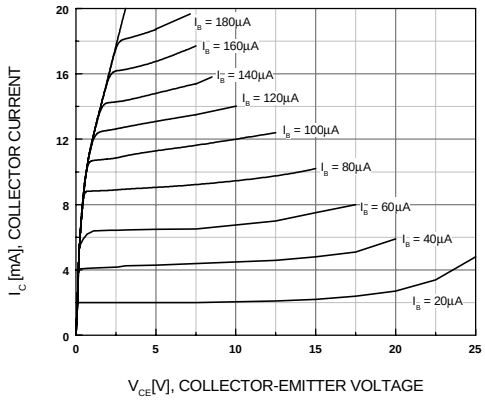


Figure 1. Static Characteristics

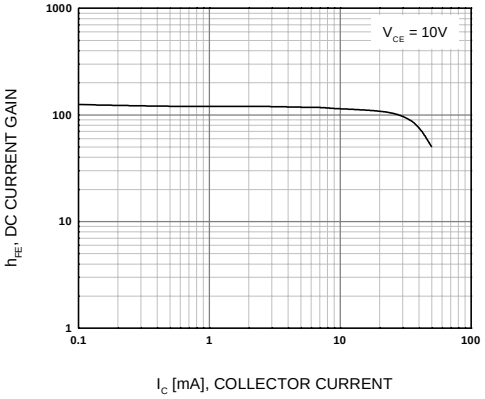


Figure 2. DC Current Gain

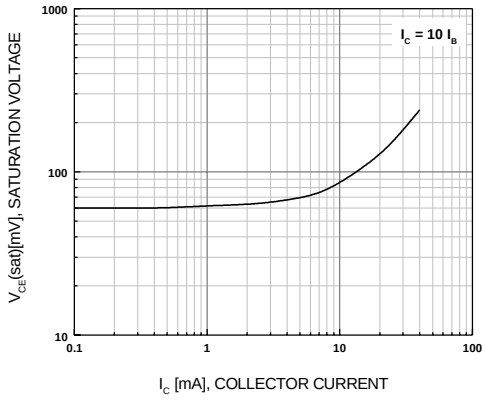


Figure 3. Collector-Emitter Saturation Voltage

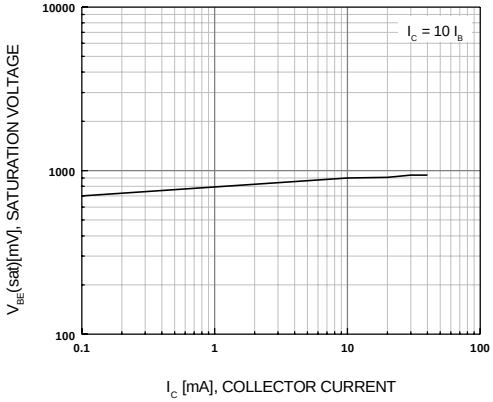


Figure 4. Base-Emitter Saturation Voltage

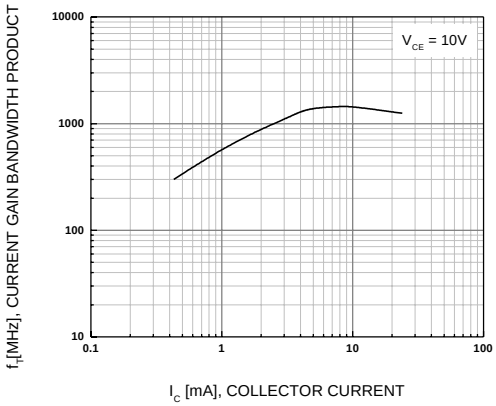


Figure 5. f_T - I_C

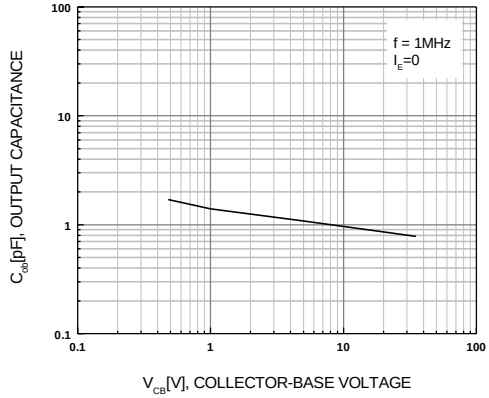


Figure 6. Output Capacitance

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Typical Characteristics (Continued)

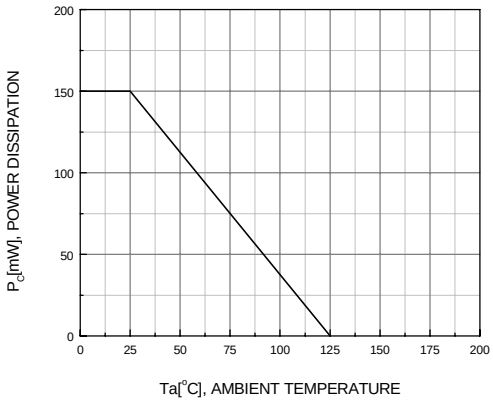


Figure 7. Power Derating

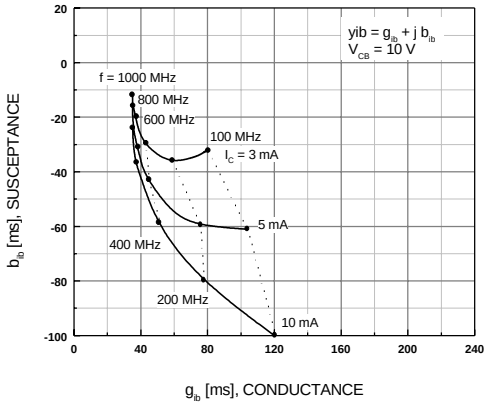


Figure 8. yib - f

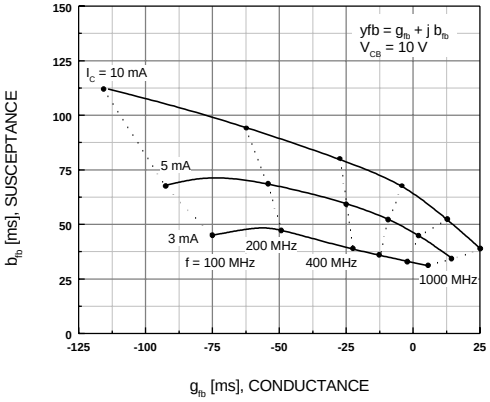


Figure 9. yfb - f

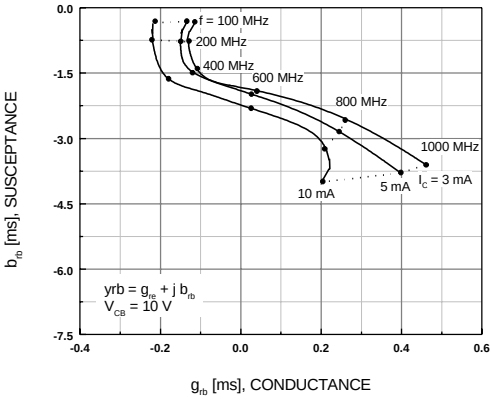


Figure 10. yrb - f

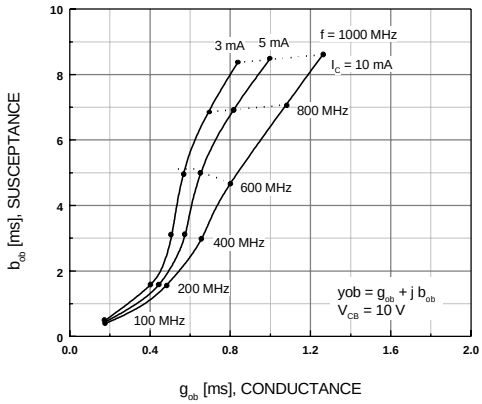
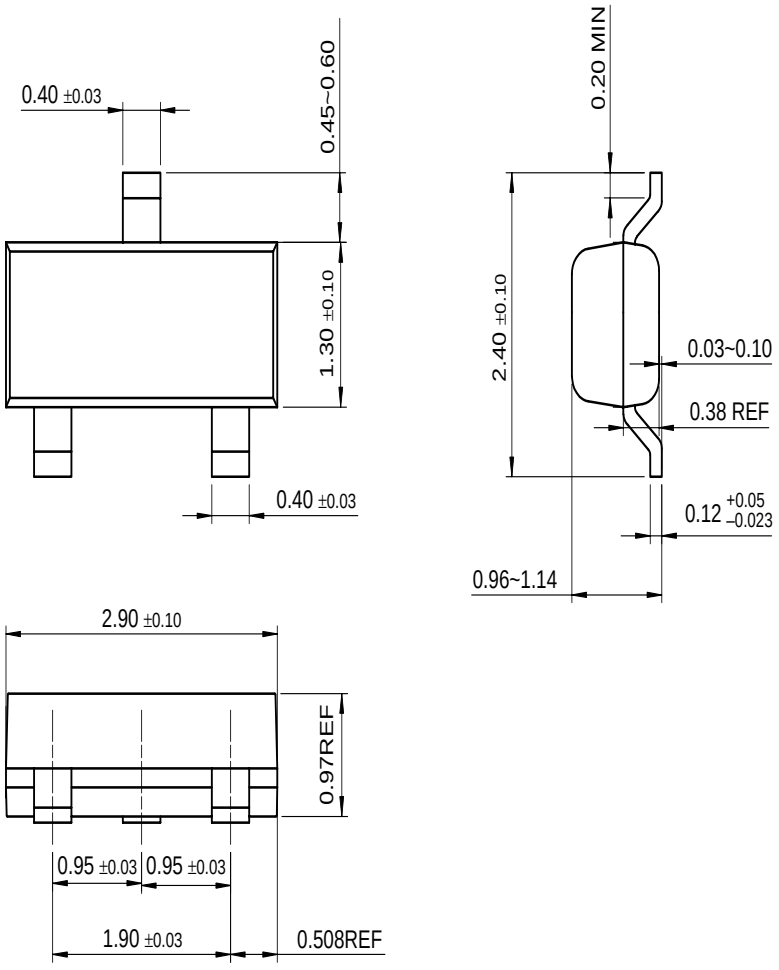


Figure 11. yob - f

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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™
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EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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