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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

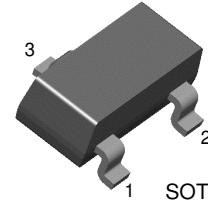


KSC2756

KSC2756

Mixer for VHF TV Tuner

- High Conversion Gain : $G_{CE} = 23\text{dB}$ (TYP.)



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	30	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ +150	$^\circ\text{C}$

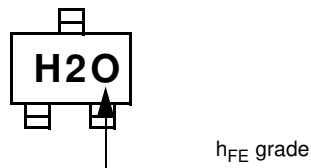
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB}=20\text{V}, I_E=0$			0.1	μA
h_{FE}	DC Current Gain	$V_{CE}=10\text{V}, I_C=5\text{mA}$	60	120	240	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$			0.5	V
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=5\text{mA}$	500	850		MHz
C_{RE}	Reverse Transfer Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.35	0.5	pF
G_{CE}	Conversion Gain	$V_{CE}=10\text{V}, I_C=3\text{mA}$ $f_{RF}=200\text{MHz}, f_{IF}=58\text{MHz}$	15	23		dB
NF	Noise Figure	$V_{CE}=10\text{V}, I_C=3\text{mA}$ $f_{RF}=200\text{MHz}, f_{IF}=58\text{MHz}$		6.5		dB

h_{FE} Classification

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

Marking



Typical Characteristics

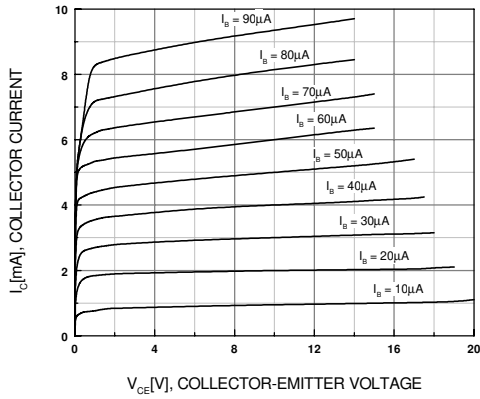


Figure 1. Static Characteristics

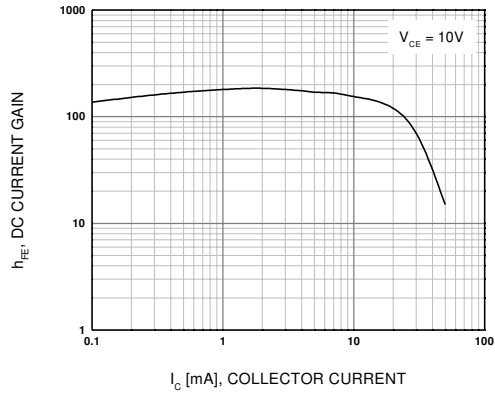


Figure 2. DC Current Gain

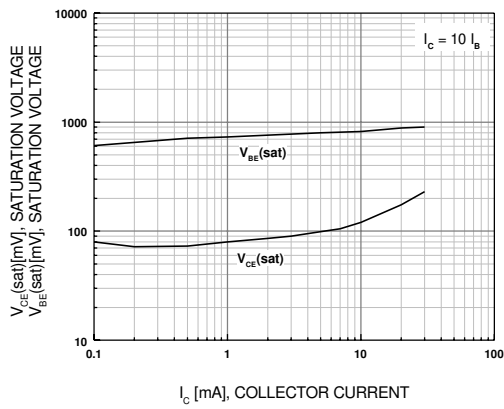


Figure 3. Saturation Voltage

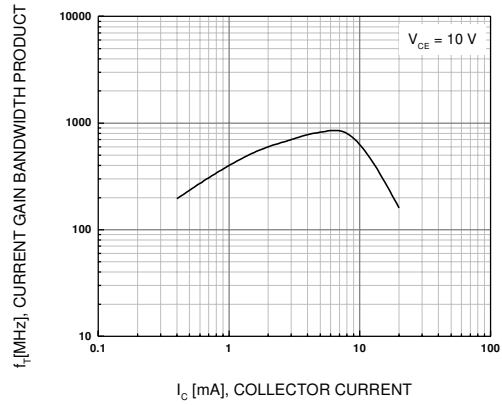


Figure 4. $f_T - I_C$

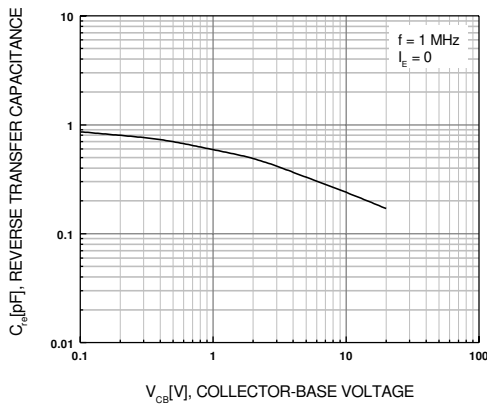


Figure 5. $C_{re} - V_{CB}$

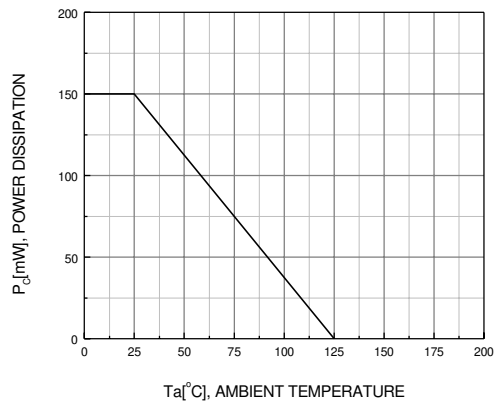


Figure 6. Power Derating

Typical Characteristics (Continued)

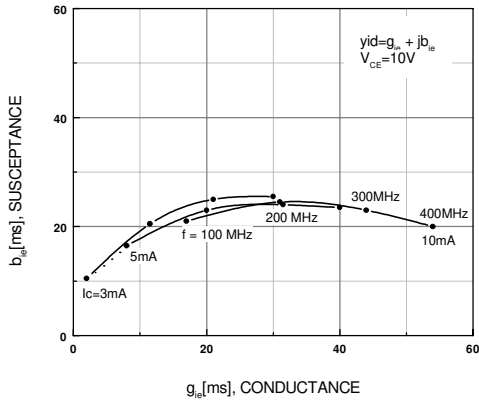


Figure 7. yie - f

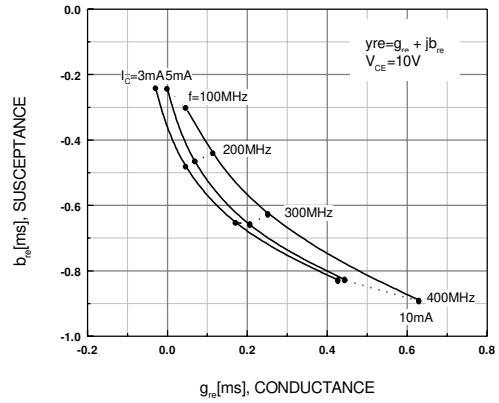


Figure 8. yre - f

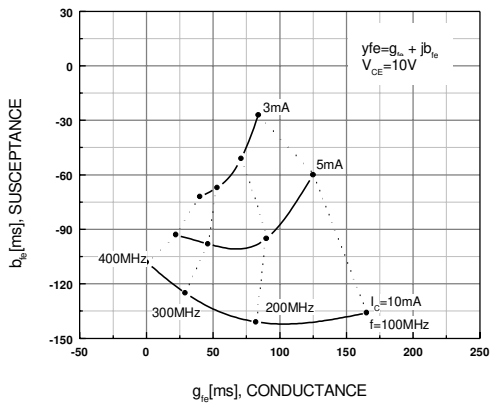


Figure 9.

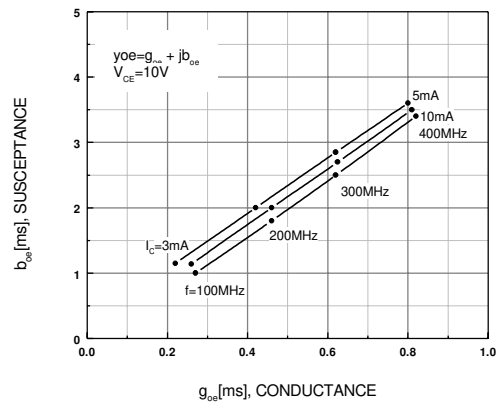


Figure 10. yoe - f

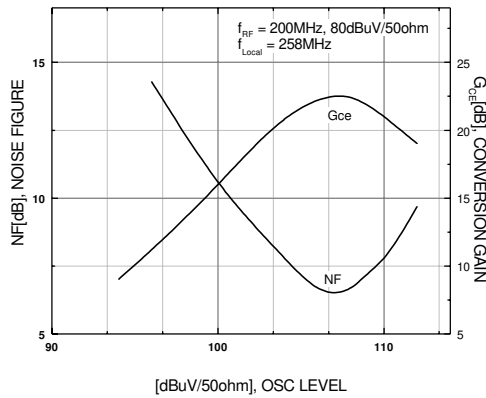


Figure 11. NF, G_{CE} - OSC Level

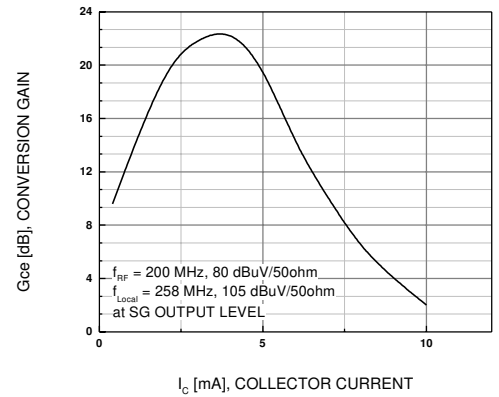
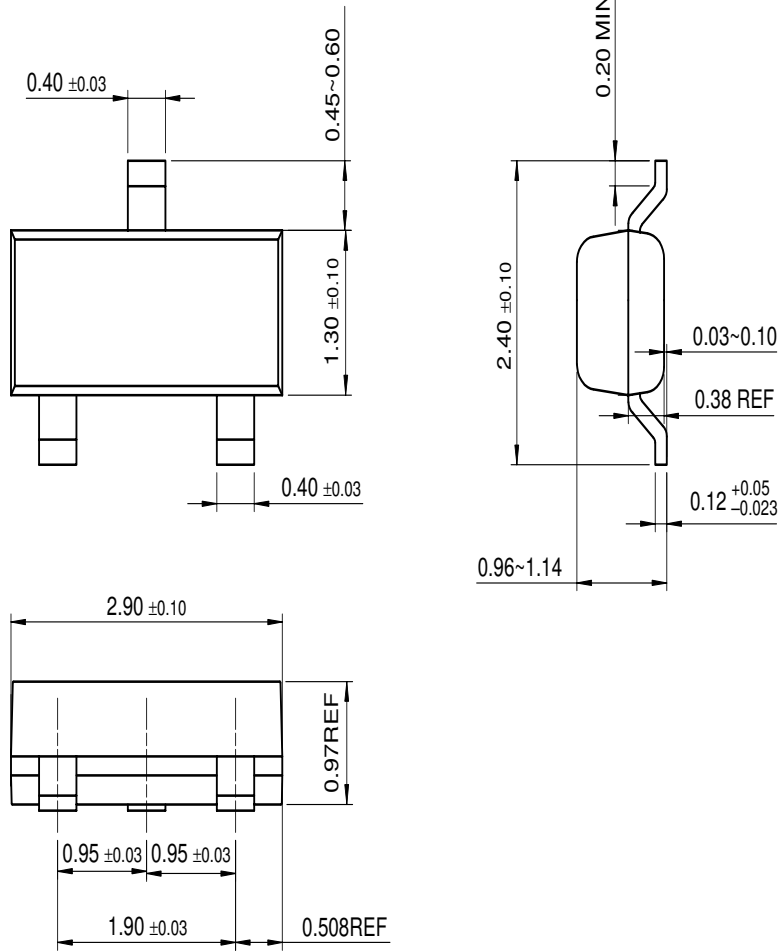


Figure 12. Conversion Gain

Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FAST _r ™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOL™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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