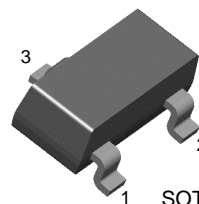


# KSC2755

KSC2755

## RF AMP, FOR VHF & TV TUNER

- Low NF, High  $G_{PE}$
- Forward AGC Capability to 30 dB
- $NF=2.0dB$  (TYP.),  $G_{PE}=23dB$  (TYP.) at  $f=200MHz$



1. Base 2. Emitter 3. Collector

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	20	mA
$P_C$	Collector Power Dissipation	150	mW
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

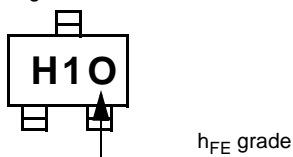
### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=20V, I_E=0$			0.1	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE}=10V, I_C=3mA$	60	120	240	
$f_T$	Current Gain Bandwidth Product	$V_{CE}=10V, I_C=3mA$	400	600		MHz
$C_{RE}$	Reverse Transfer Capacitance	$f=1MHz, V_{CB}=10V, I_E=0$		0.3	0.5	pF
$G_{PE}$	Power Gain	$V_{CE}=10V, I_C=3mA$ $f=200MHz$	20	23		dB
$I_{AGC}$	AGC Current	$f=200MHz$ $I_E$ at $G_R=-30dB$		-10	-12	mA
NF	Noise Figure	$V_{CE}=10V, I_C=3mA$ $f=200MHz$		2.0	0.3	dB

## $h_{FE}$ Classification

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

Marking



# Typical Characteristics

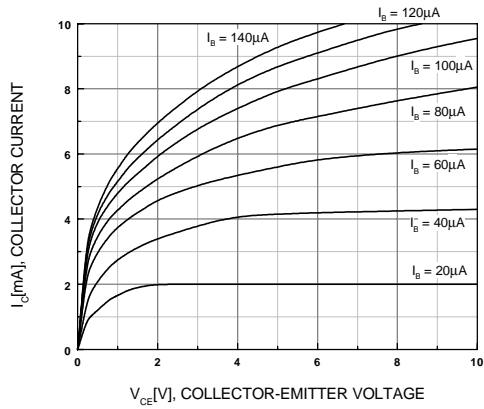


Figure 1. Static Characteristics

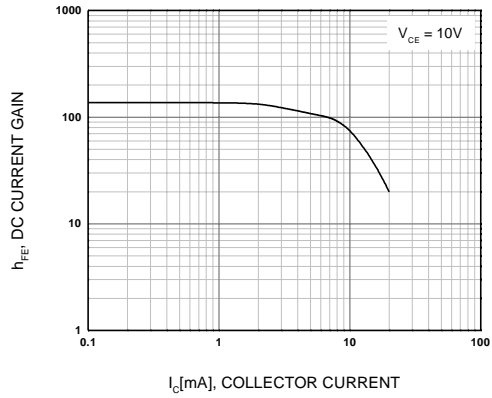


Figure 2. DC Current Gain

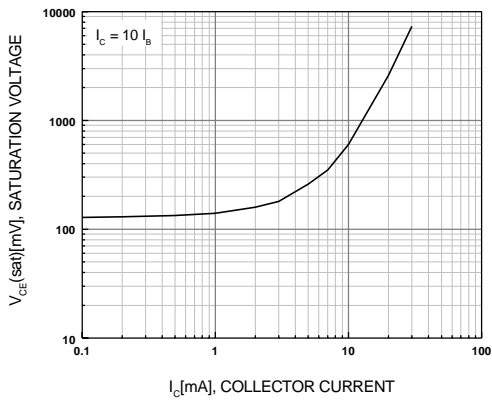


Figure 3. Collector-Emitter Saturation Voltage

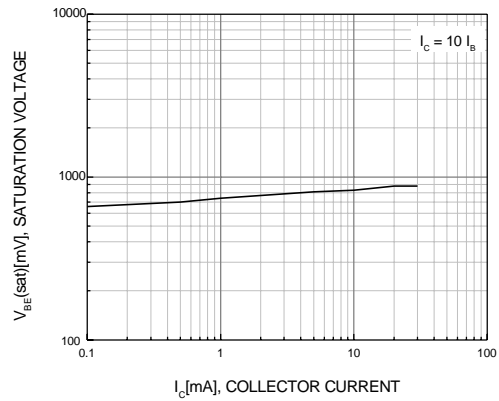


Figure 4. Base-Emitter Saturation Voltage

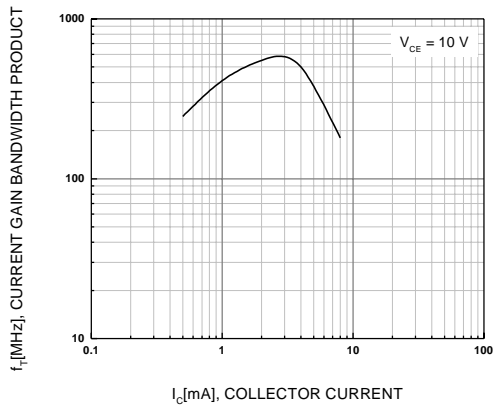


Figure 5.  $f_T - I_C$

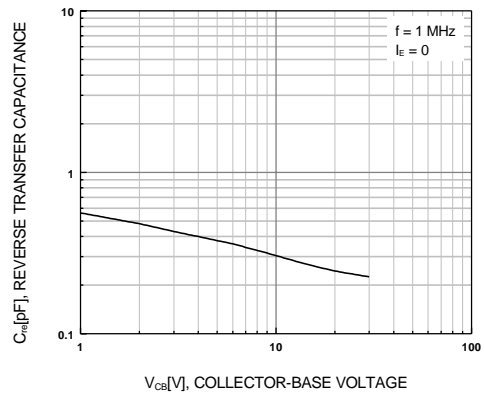


Figure 6.  $C_{re} - V_{CB}$

# Typical Characteristics (Continued)

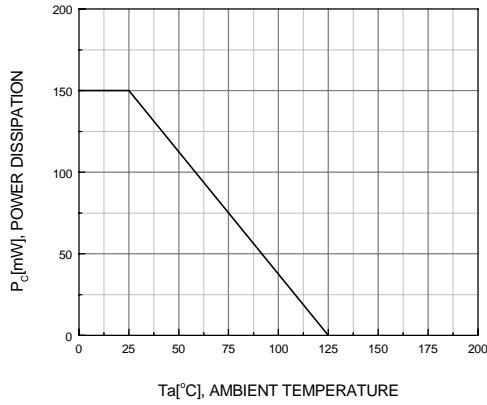


Figure 7. Power Derating

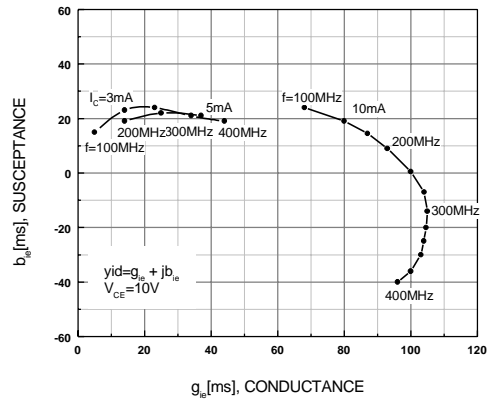


Figure 8.  $y_{ie} - f$

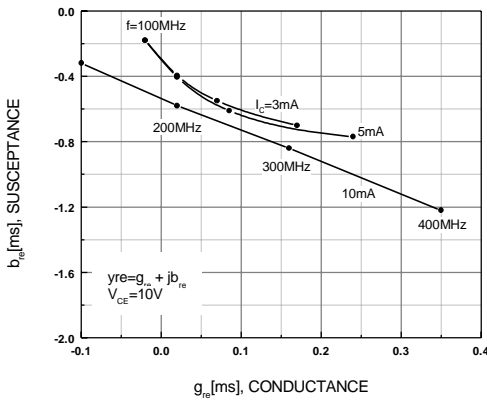


Figure 9.  $y_{re} - f$

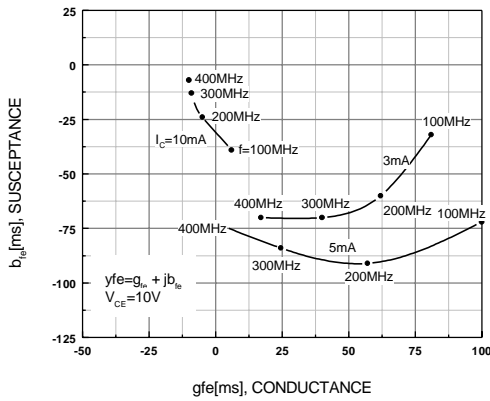


Figure 10.  $y_{fe} - f$

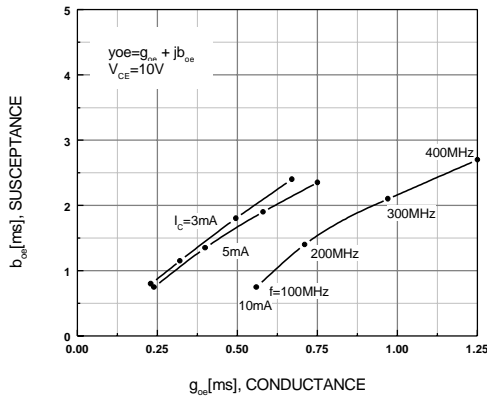


Figure 11.  $y_{oe} - f$

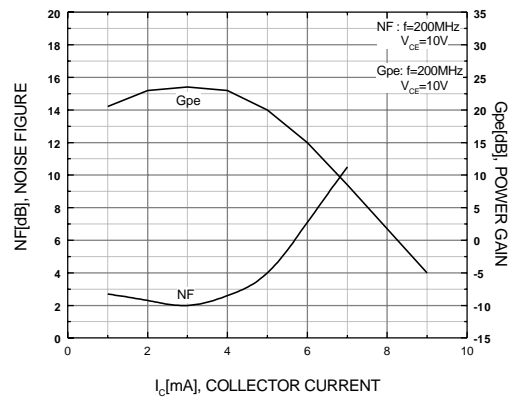


Figure 12.  $G_{pe}, NF - I_c$

# Package Dimensions

## SOT-23



Dimensions in Millimeters

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ActiveArray <sup>™</sup>	FACT Quiet series <sup>™</sup>	ISOPLANAR <sup>™</sup>	POP <sup>™</sup>	Stealth <sup>™</sup>
Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
CoolFET <sup>™</sup>	FAST <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
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