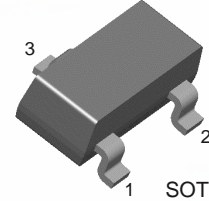


**FAIRCHILD**  
SEMICONDUCTOR®

## KSC2859

### Low Frequency Power Amplifier

- Complement to KSA1182



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
$V_{CB0}$	Collector-Base Voltage	35	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	500	mA
$P_C$	Collector Power Dissipation	150	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

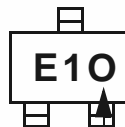
#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CEO}$	Collector Cut-off Current	$V_{CB}=35\text{V}, I_E=0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
$h_{FE1}$	DC Current Gain	$V_{CE}=1\text{V}, I_C=100\text{mA}$	70		240	
$h_{FE2}$		$V_{CE}=6\text{V}, I_C=400\text{mA}$	25			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}, I_B=10\text{mA}$		0.1	0.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=1\text{V}, I_C=100\text{mA}$		0.8	1.0	V
$f_T$	Current Gain-Bandwidth Product	$V_{CE}=6\text{V}, I_C=20\text{mA}$		300		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$		7		pF

#### $h_{FE1}$ Classification

Classification	O	Y
$h_{FE1}$	70 ~ 140	120 ~ 240

Marking



$h_{FE}$  grade

# Typical Characteristics

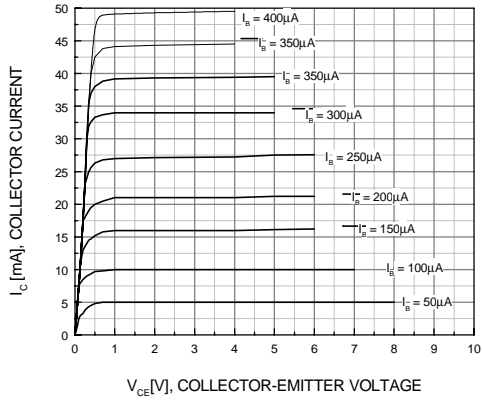


Figure 1. Static Characteristics

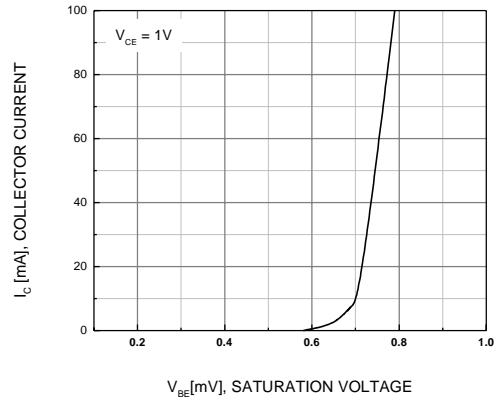


Figure 2. Base-Emitter On Voltage

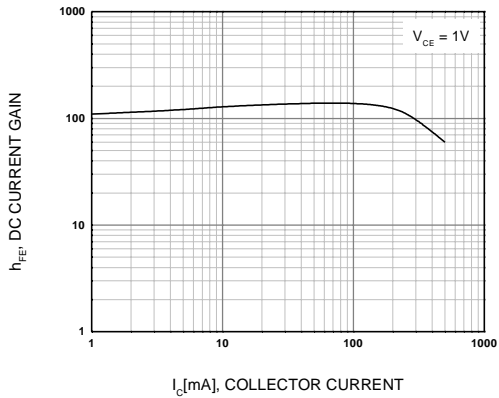


Figure 3. DC Current Gain

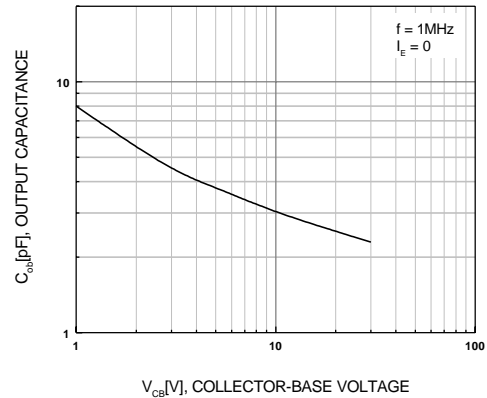


Figure 4. Output Capacitance

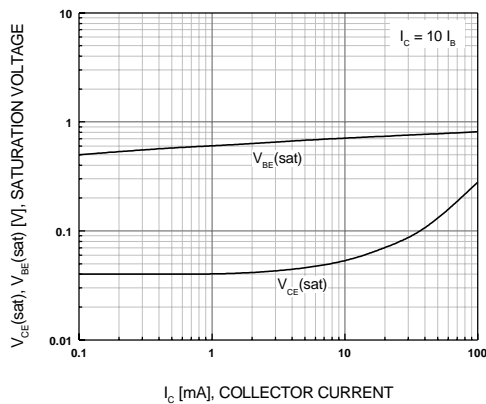
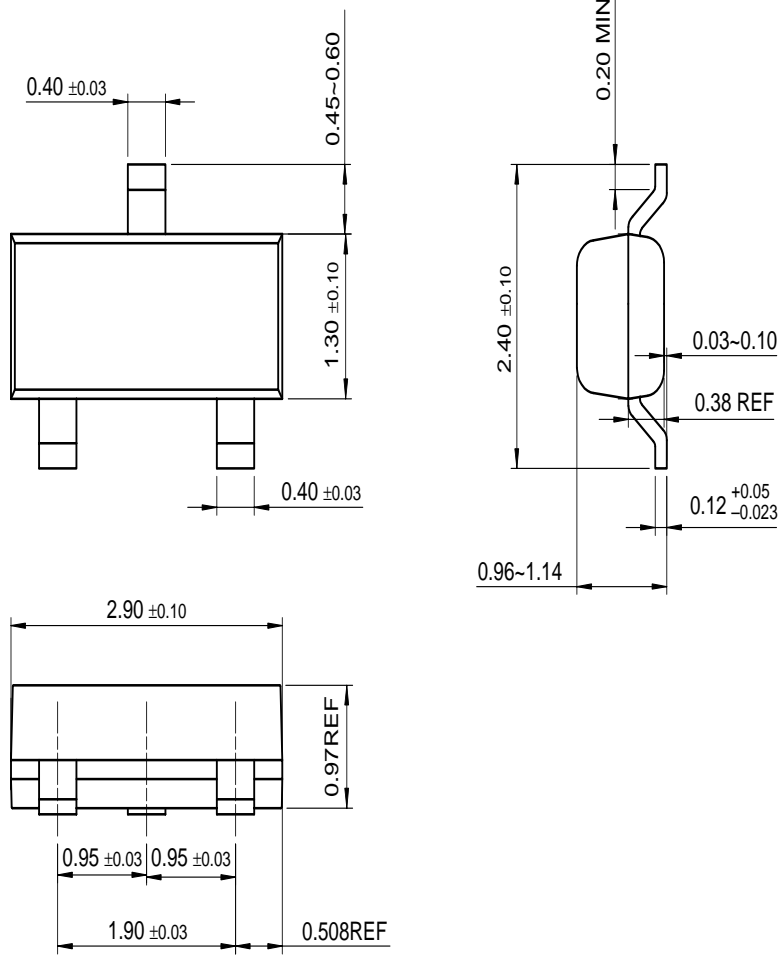


Figure 5. Saturation Voltage

# Package Dimensions

## SOT-23



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOMET™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E <sup>2</sup> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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