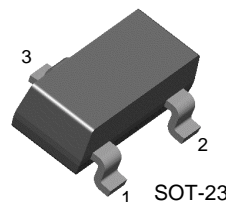


# KSC1623

KSC1623

## Low Frequency Amplifier & High Frequency OSC.

- Complement to KSA812



1. Base 2. Emitter 3. Collector

## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	100	mA
$P_C$	Collector Power Dissipation	200	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

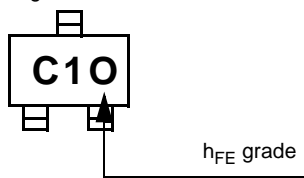
### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=60\text{V}, I_E=0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE}=6\text{V}, I_C=1\text{mA}$	90	200	600	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}, I_B=10\text{mA}$		0.15	0.3	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C=100\text{mA}, I_B=10\text{mA}$		0.86	1.0	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=6\text{V}, I_C=1\text{mA}$	0.55	0.62	0.65	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=6\text{V}, I_C=10\text{mA}$		250		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$		3		pF

### $h_{FE}$ Classification

Classification	O	Y	G	L
$h_{FE}$	90 ~ 180	135 ~ 270	200 ~ 400	300 ~ 600

Marking



# Typical Characteristics

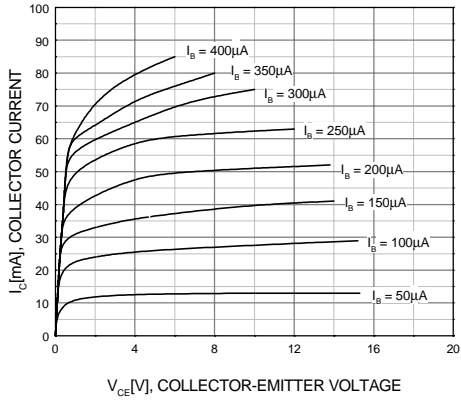


Figure 1. Static Characteristic

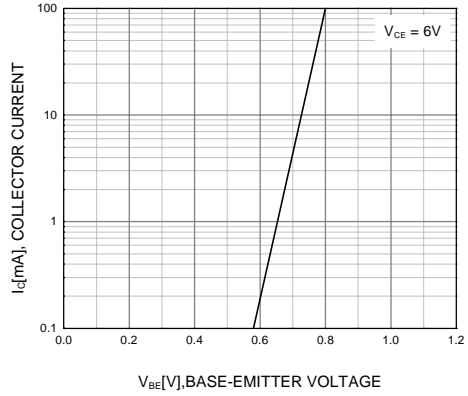


Figure 2. Transfer Characteristic

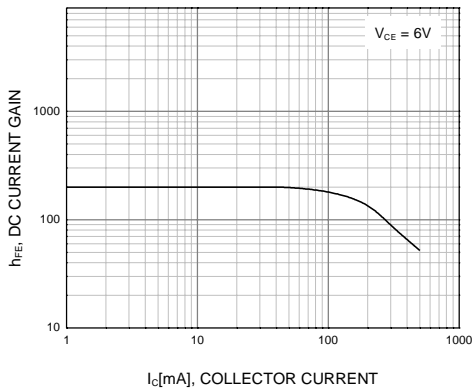


Figure 3. DC current Gain

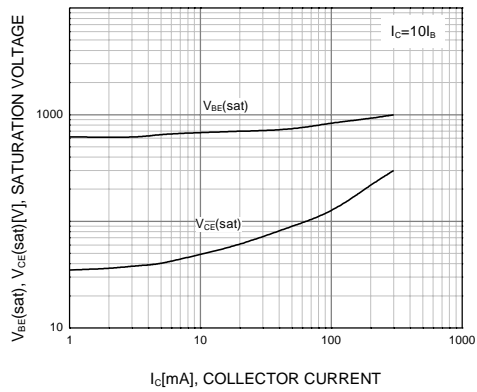


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

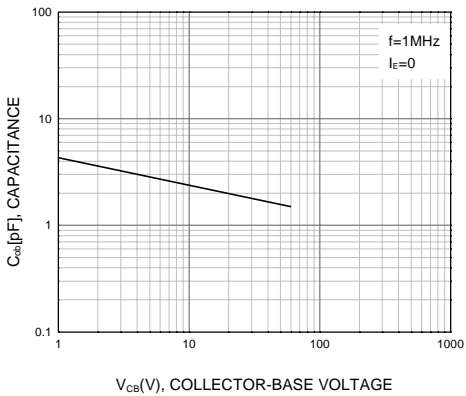


Figure 5. Output Capacitance

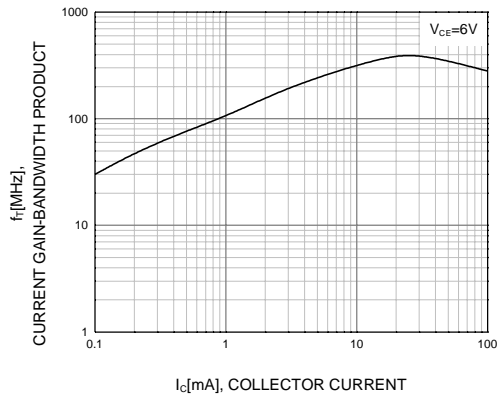


Figure 6. Current Gain Bandwidth Product

# 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
CROSSVOLT <sup>™</sup>	FRFET <sup>™</sup>	MicroPak <sup>™</sup>	QFET <sup>™</sup>	SuperSOT <sup>™</sup> -8
DOMET <sup>™</sup>	GlobalOptoisolator <sup>™</sup>	MICROWIRE <sup>™</sup>	QS <sup>™</sup>	SyncFET <sup>™</sup>
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## PRODUCT STATUS DEFINITIONS

### Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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NPN Epitaxial Silicon Transistor

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
KSC1623GMTF	Full Production	Full Production	\$0.0281	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C1G
KSC1623GMTF_NL	Full Production	Full Production	N/A	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C1G
KSC1623LMTF	Full Production	Full Production	\$0.0281	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C1L

KSC1623OMTF	Full Production	 Full Production	\$0.0281	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C10
KSC1623YMTF	Full Production	 Full Production	\$0.0281	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C1Y
KSC1623YMTF_NL	Full Production	 Full Production	N/A	<a href="#">SOT-23</a>	3	TAPE REEL	Line 1: C1Y

\* Fairchild 1,000 piece Budgetary Pricing

\*\* A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

Package marking information for product KSC1623 is available. [Click here for more information](#).

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### Models

Package & leads	Condition	Temperature range	Vcc range	Software version	Revision date
<b>PSPICE</b>					
SOT-23-3	<a href="#">Electrical/Thermal</a>	-55°C to 150°C	0V to 20V	9.2	Jan 15, 2004

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### Qualification Support

Click on a product for detailed qualification data

Product
<a href="#">KSC1623GMTF</a>
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<a href="#">KSC1623OMTF</a>
<a href="#">KSC1623YMTF</a>

[KSC1623YMTF\\_NL](#)

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