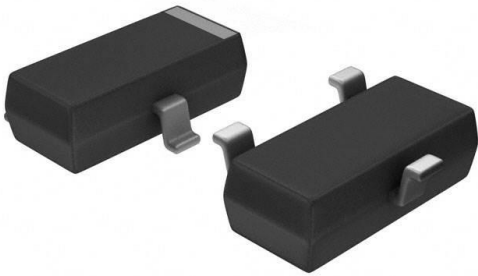


# KSA8120MTF Datasheet

[www.digi-electronics.com](http://www.digi-electronics.com)



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DiGi Electronics Part Number	KSA8120MTF-DG
Manufacturer	<a href="#">onsemi</a>
Manufacturer Product Number	KSA8120MTF
Description	TRANS PNP 50V 0.1A SOT23-3
Detailed Description	Bipolar (BJT) Transistor PNP 50 V 100 mA 180MHz 1 50 mW Surface Mount SOT-23-3



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

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## Purchase and inquiry

Manufacturer Product Number:

KSA812OMTF

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

50 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

150 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

KSA812

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

100 mA

Vce Saturation (Max) @ Ib, Ic:

300mV @ 10mA, 100mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

90 @ 1mA, 6V

Frequency - Transition:

180MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-23-3

## Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075



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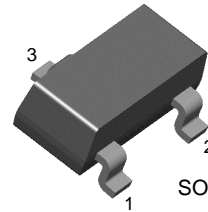
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## KSA812

### Low Frequency Amplifier

- Collector-Base Voltage :  $V_{CBO} = -60V$
- Complement to KSC1623



SOT-23  
1. Base 2. Emitter 3. Collector

### PNP 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	150	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

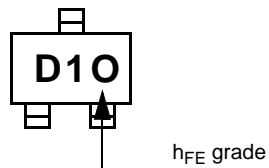
#### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -60V, I_E = 0$			-0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = -6V, I_C = -1\text{mA}$	90	200	600	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -100\text{mA}, I_B = -10\text{mA}$		-0.18	-0.3	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = -6V, I_C = -1\text{mA}$	-0.55	-0.62	-0.65	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -6V, I_C = -10\text{mA}$		180		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10V, I_E = 0, f = 1\text{MHz}$		4.5		pF

### $h_{FE}$ Classification

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

Marking



# Typical Characteristics

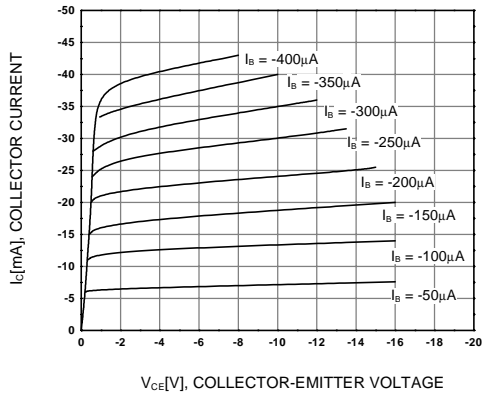


Figure 1. Static Characteristic

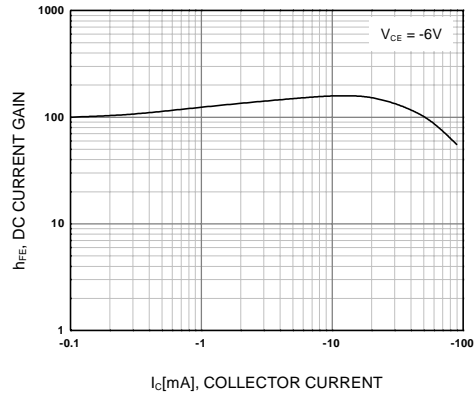


Figure 2. DC current Gain

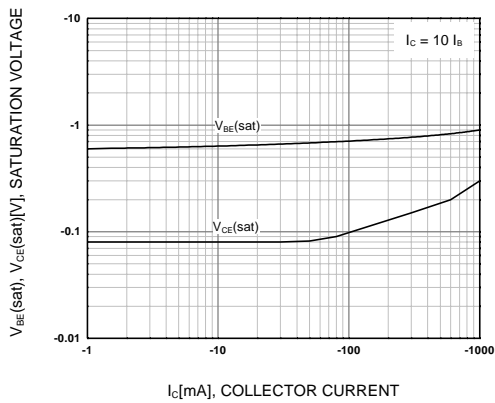


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

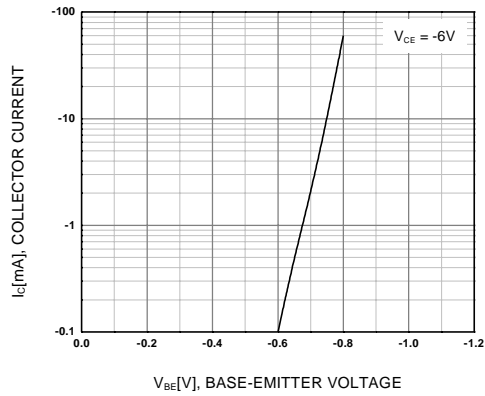


Figure 4. Base-Emitter On Voltage

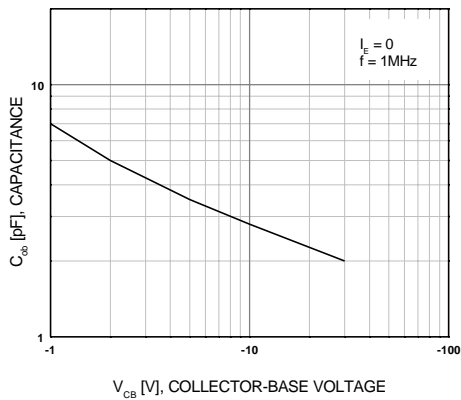


Figure 5. Collector Output Capacitance

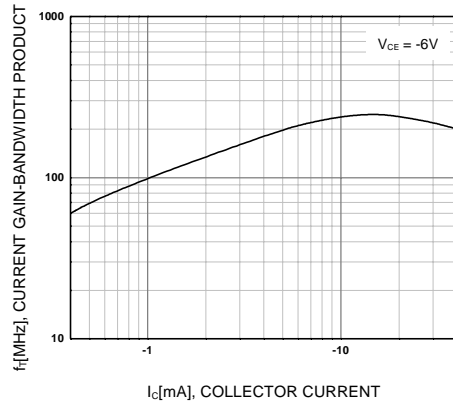
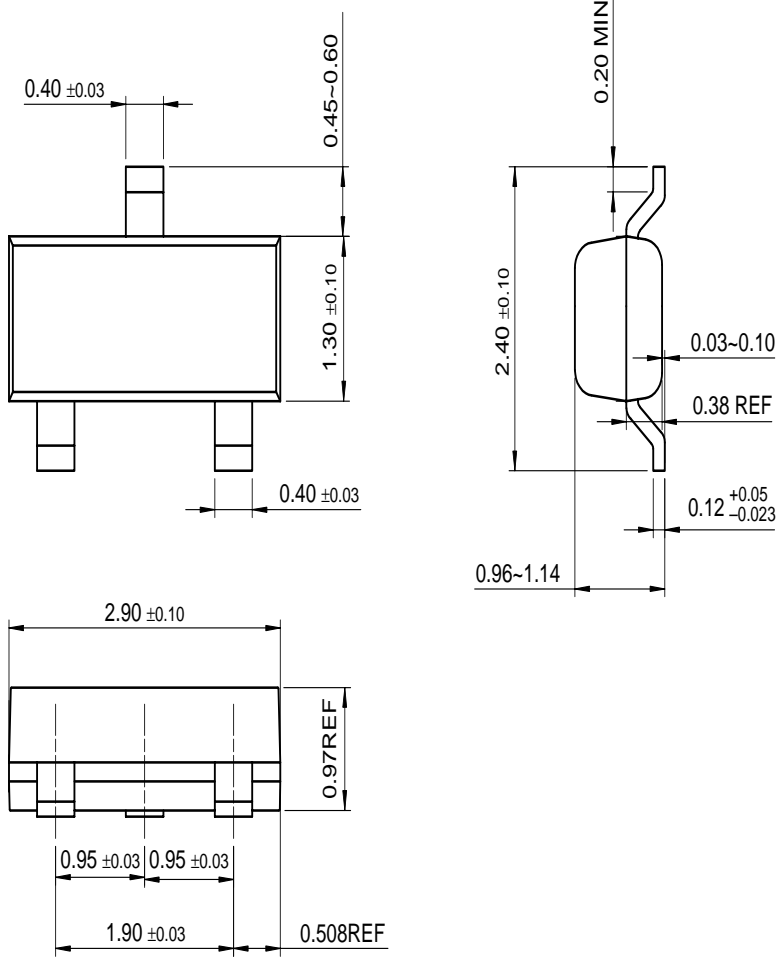


Figure 6. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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