

## SS9012

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### 1W Output Amplifier of Potable Radios in Class B Push-pull Operation.

- High total power dissipation. ( $P_T=625\text{mW}$ )
- High Collector Current. ( $I_C = -500\text{mA}$ )
- Complementary to SS9013
- Excellent  $h_{FE}$  linearity.



### 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	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-500	mA
$P_C$	Collector Power Dissipation	625	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
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-20			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -25\text{V}, I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -3\text{V}, I_C = 0$			-100	nA
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = -1\text{V}, I_C = -50\text{mA}$ $V_{CE} = -1\text{V}, I_C = -500\text{mA}$	64 40	120 90	202	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-0.18	-0.6	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-0.95	-1.2	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	-0.6	-0.67	-0.7	V

#### $h_{FE}$ Classification

Classification	D	E	F	G	H
$h_{FE1}$	64 ~ 91	78 ~ 112	96 ~ 135	112 ~ 166	144 ~ 202

# Typical Characteristics

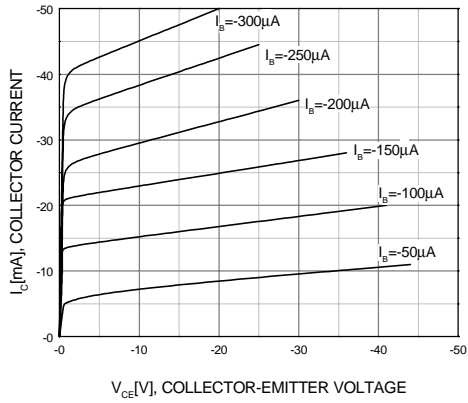


Figure 1. Static Characteristic

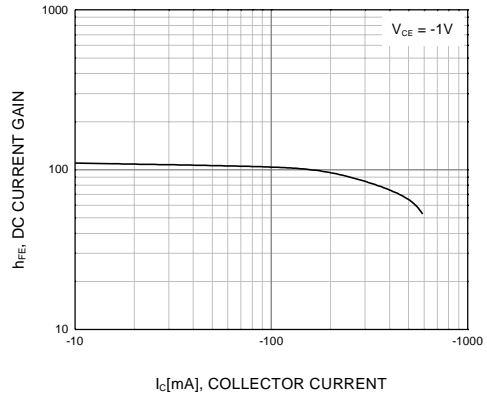


Figure 2. DC current Gain

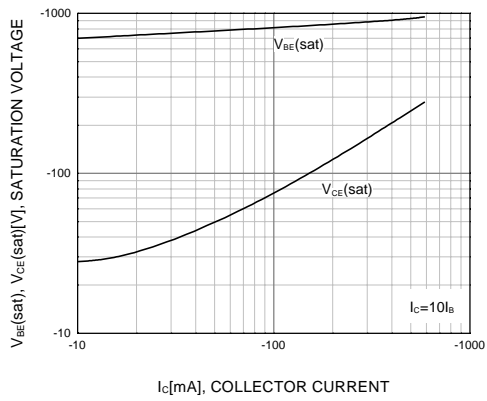


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

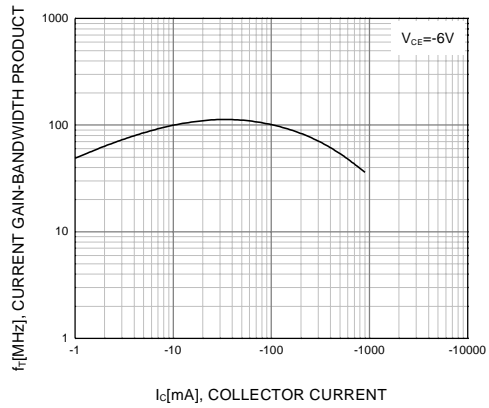


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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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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SS9012

PNP Epitaxial Silicon Transistor

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Features

- High Total Power Dissipation: ( $P_T = 625\text{mW}$ )
- High Collector Current : ( $I_C = -500\text{mA}$ )
- Complementary to SS9013
- Excellent  $h_{FE}$  linearity.

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Applications

**1W Output Amplifier of Portable Radios in Class B Push-pull Operation.**

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
SS9012GIUTA	Full Production	\$0.053	<a href="#">TO-92</a>	3	TAPE REEL
SS9012HCHBU	Full Production	\$0.058	<a href="#">TO-92</a>	3	BULK
SS9012GTA	Full Production	\$0.053	<a href="#">TO-92</a>	3	TAPE REEL
SS9012GCHBU	Full Production	\$0.053	<a href="#">TO-92</a>	3	BULK
SS9012HBU	Full Production	\$0.053	<a href="#">TO-92</a>	3	BULK
SS9012HTA	Full Production	\$0.053	<a href="#">TO-92</a>	3	TAPE REEL
SS9012GBU	Full Production	\$0.053	<a href="#">TO-92</a>	3	BULK

\* 1,000 piece Budgetary Pricing

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Models

Package & leads	Condition	Temperature range	Software version	Revision date
PSPICE				
TO-92-3	<a href="#">Electrical</a>	-25°C to 125°C	9.2	Feb 1, 2002

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