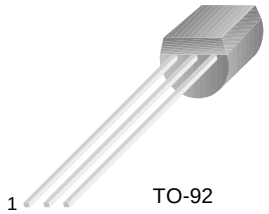
FAIRCHILD
SEMICONDUCTOR®

SS9013

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

- High total power dissipation. (P_T=625mW)
- High Collector Current. (I_C=500mA)
- Complementary to SS9012
- Excellent h_{FE} linearity.



TO-92

1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°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	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C =100μA, I_E =0	40			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C =1mA, I_B =0	20			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E =100μA, I_C =0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB} =25V, I_E =0			100	nA
I_{EBO}	Emitter Cut-off Current	V_{EB} =3V, I_C =0			100	nA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} =1V, I_C =50mA V_{CE} =1V, I_C =500mA	64 40	120 120	202	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C =500mA, I_B =50mA		0.16	0.6	V
V_{BE} (sat)	Base-Emitter Saturation Voltage	I_C =500mA, I_B =50mA		0.91	1.2	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE} =1V, I_C =10mA	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

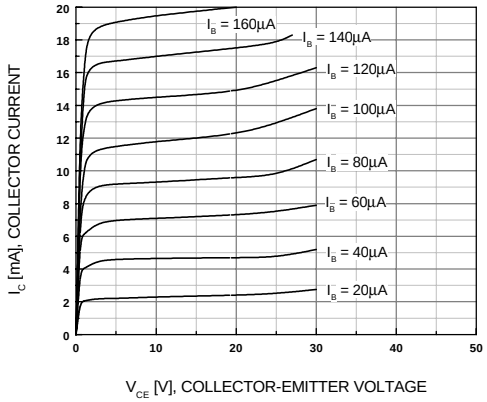


Figure 1. Static Characteristic

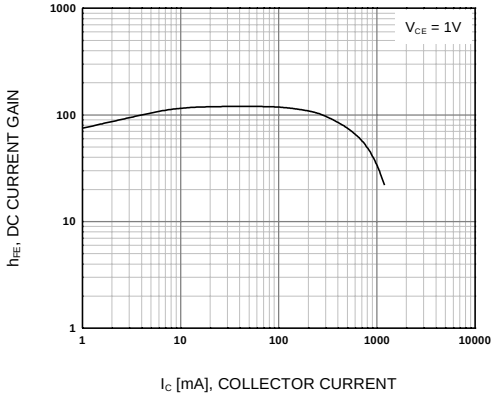


Figure 2. DC current Gain

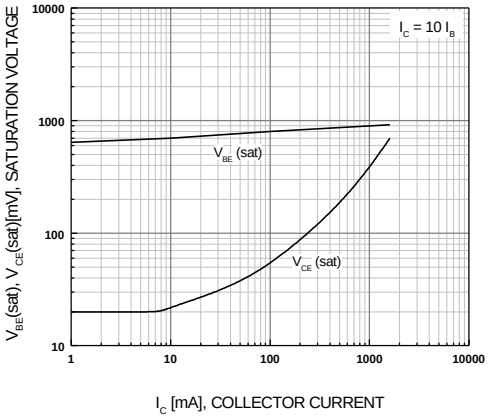


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

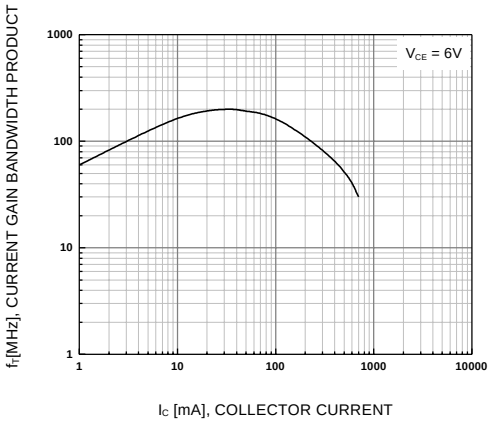


Figure 4. Current Gain Bandwidth Product

Package Dimensions

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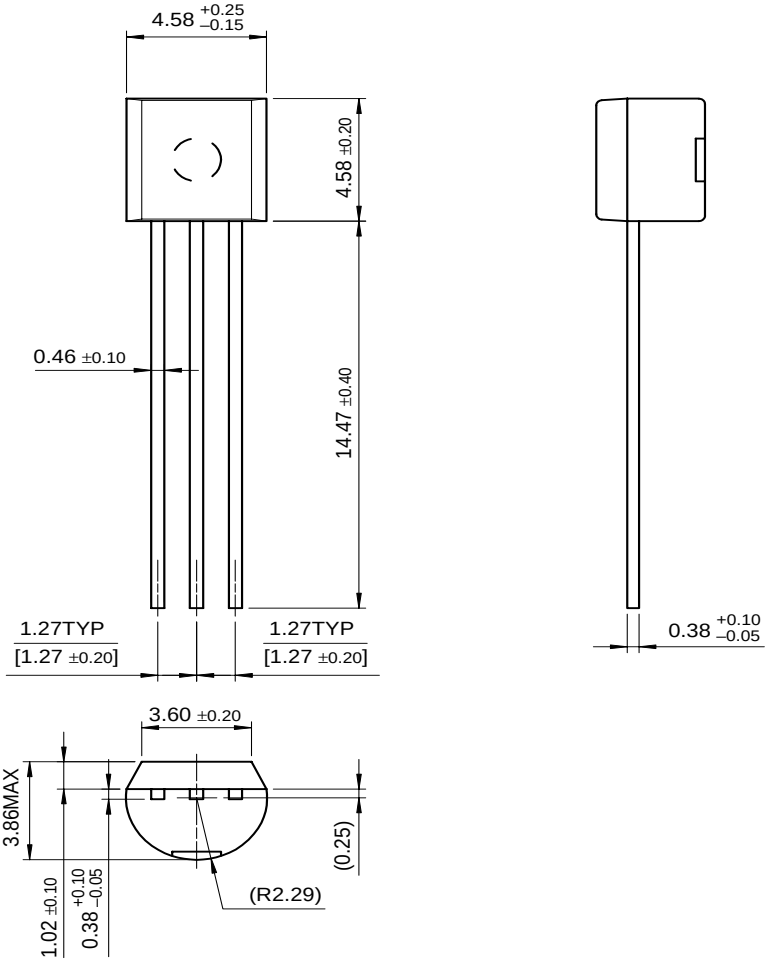

Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	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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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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.

SS9013

NPN Epitaxial Silicon Transistor

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Features

- High Total Power Dissipation: (P_T = 625mW)
- High Collector Current : (I_C=-500mA)
- Complementary to SS9012
- 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

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
SS9013FBU	Full Production	Full Production	$0.0265	TO-92	3	BULK	Line 1: S9013 Line 3: F-&3
SS9013FTA	Full Production		$0.0316	TO-92	3	AMMO	Line 1: S9013 Line 3: F-&3

		Full Production					
SS9013FTF	Full Production	Full Production	$0.0265	TO-92	3	TAPE REEL	Line 1: S9013 Line 3: F-&3
SS9013GBU	Full Production	Full Production	$0.0265	TO-92	3	BULK	Line 1: S9013 Line 3: G-&3
SS9013GTA	Full Production	Full Production	$0.0265	TO-92	3	AMMO	Line 1: S9013 Line 3: G-&3
SS9013HBU	Full Production	Full Production	$0.0265	TO-92	3	BULK	Line 1: S9013 Line 3: H-&3
SS9013HTA	Full Production	Full Production	$0.0265	TO-92	3	AMMO	Line 1: S9013 Line 3: H-&3

* 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 SS9013 is available. Click here for more information .

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Models

Package & leads	Condition	Temperature range	Software version	Revision date
PSPICE				
TO-92-3	Electrical	-25°C to 125°C	9.2	Feb 1, 2002

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Qualification Support

Click on a product for detailed qualification data

Product
SS9013FBU
SS9013FTA
SS9013FTF
SS9013GBU
SS9013GTA
SS9013HBU
SS9013HTA

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