# FAIRCHILD

SEMICONDUCTOR®

## KSD1020

### **Audio Frequency Amplifier**

Complement to KSB810



1.Emitter 2. Collector 3. Base

## **NPN Epitaxial Silicon Transistor**

Absolute Maximum Ratings  $T_a=25$  °C unless otherwise noted

Symbol	Parameter	Ratings	Units
V <sub>CBO</sub>	Collector-Base Voltage	30	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	5.0	V
I <sub>C</sub>	Collector Current (DC)	700	mA
I <sub>CP</sub>	* Collector Current (Pulse)	1.0	А
P <sub>C</sub>	Collector Power Dissipation	350	mW
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

\* PW≤10ms, Duty Cycle≤50%

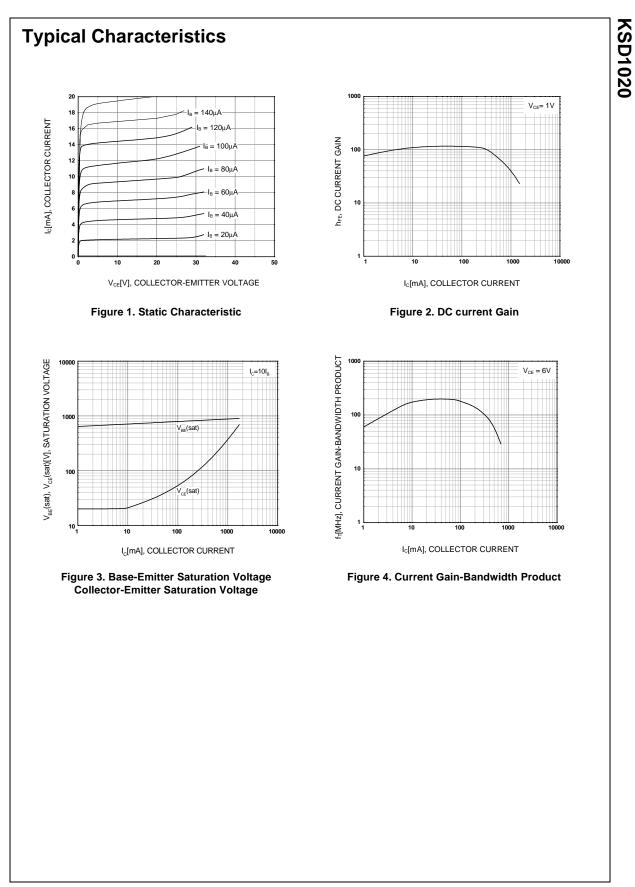
### **Electrical Characteristics** $T_a=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> =30V, I <sub>E</sub> =0			100	nA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> =5V, I <sub>C</sub> =0			100	nA
h <sub>FE1</sub>	* DC Current Gain	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	120	200	400	
h <sub>FE2</sub>		V <sub>CE</sub> =1V, I <sub>C</sub> =700mA	35	140		
V <sub>BE</sub> (on)	Base-Emitter On Voltage	V <sub>CE</sub> =6V, I <sub>C</sub> =10mA	600	640	700	mV
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> =700mA, I <sub>B</sub> =70mA		0.2	0.4	V
V <sub>BE</sub> (sat)	Base-Emitter Saturation Voltage	I <sub>C</sub> =700mA, I <sub>B</sub> =70mA		0.95	1.2	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> =6V, I <sub>E</sub> =0, f=1MHz		13	25	pF
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> =6V, I <sub>C</sub> =10mA	50	170		MHz

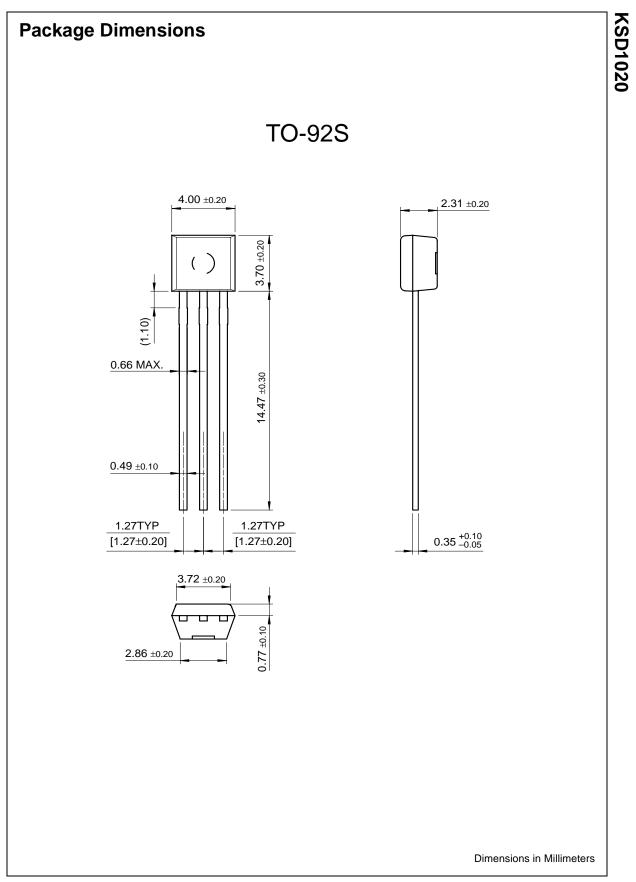
\* Pulse Test: PW≤350µs, Duty Cycle≤ 2%

## h<sub>FE1</sub> Classification

Classification	Y	G
h <sub>FE1</sub>	120 ~ 240	200 ~ 400



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E <sup>2</sup> CMOS™	HiSeC™	MSX™	QT Optoelectronics <sup>™</sup>	TinyLogic <sup>®</sup>
EnSigna™	I <sup>2</sup> C <sup>™</sup>	MSXPro™	Quiet Series™	TINYOPTO™
FACT™	<i>i-Lo</i> ™	OCX™	RapidConfigure™	TruTranslation™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UHC™
The Power Franchise <sup>®</sup>		OPTOLOGIC®	SILENT SWITCHER <sup>®</sup>	UltraFET <sup>®</sup>
Programmable A	ctive Droop™	OPTOPLANAR™	SMART START™	VCX™

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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.
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