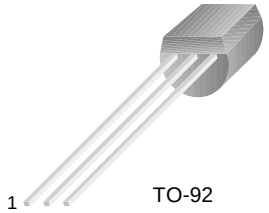
FAIRCHILD
SEMICONDUCTOR®

KSC945

Audio Frequency Amplifier & High Frequency OSC.

- Complement to KSA733
- Collector-Base Voltage : V_{CBO}=60V
- High Current Gain Bandwidth Product : f_T=300MHz (TYP)
- Suffix “-C” means Center Collector (1. Emitter 2. Collector 3. Base)



TO-92

1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	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	150	mA
P_C	Collector Power Dissipation	250	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	60			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=10mA, I_B=0	50			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB}=40V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=3V, I_C=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=6V, I_C=1.0mA	40		700	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=100mA, I_B=10mA		0.15	0.3	V
f_T	Current Gain Bandwidth Product	V_{CE}=6V, I_C=10mA		300		MHz
C_{ob}	Output Capacitance	V_{CB}=6V, I_E=0, f=1MHz		2.5		pF
NF	Noise Figure	V_{CE}=6V, I_C=0.5mA f=1KHz, R_S=500Ω		4.0		dB

h_{FE} Classification

Classification	R	O	Y	G	L
h_{FE}	40 ~ 80	70 ~ 140	120 ~ 240	200 ~ 400	350 ~ 700

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Typical Characteristics

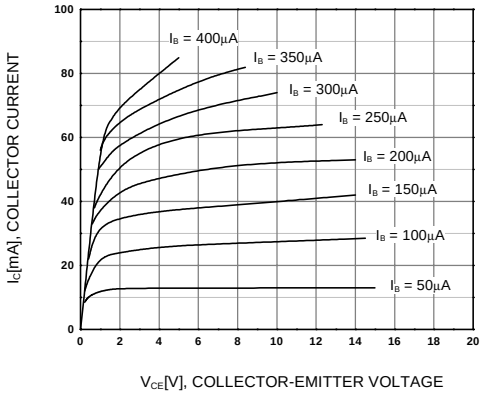


Figure 1. Static Characteristic

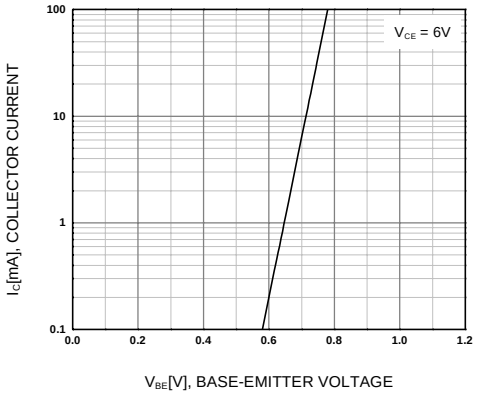


Figure 2. Transfer Characteristic

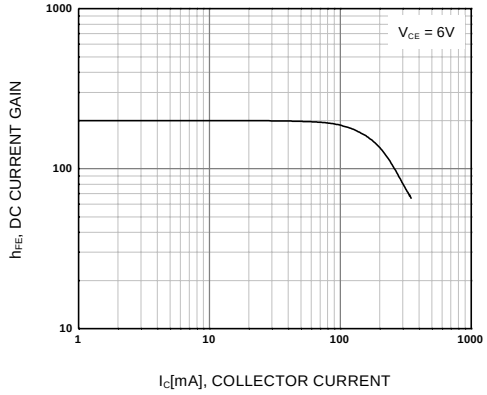


Figure 3. DC current Gain

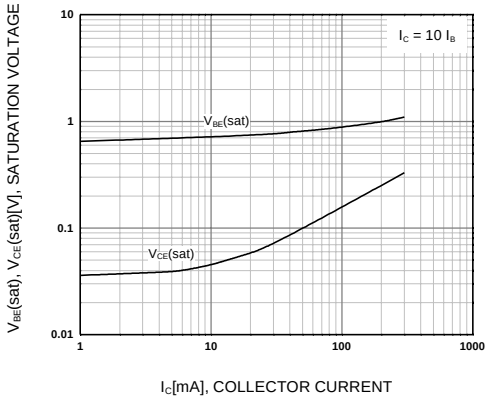


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

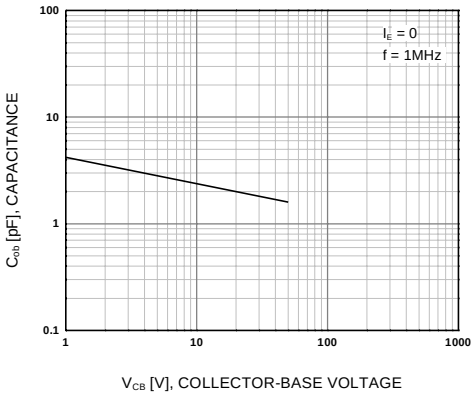


Figure 5. Output Capacitance

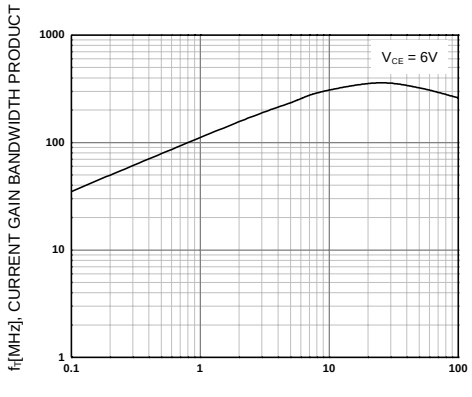
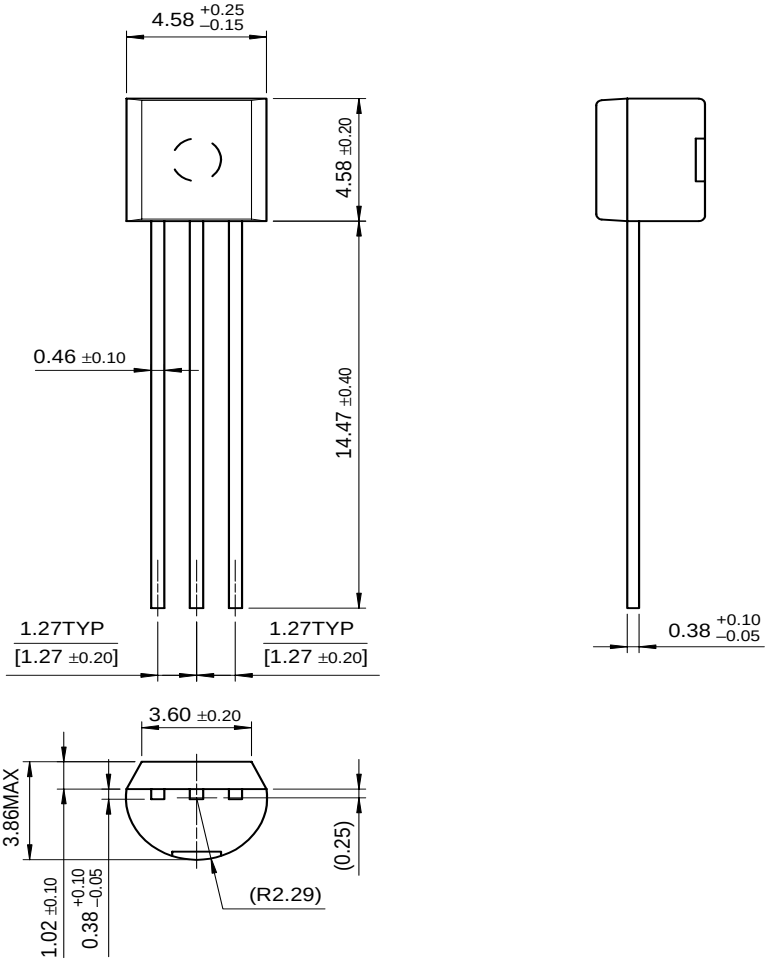


Figure 6. Current Gain Bandwidth Product

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Package Dimensions

TO-92



Dimensions in Millimeters

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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.

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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.
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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