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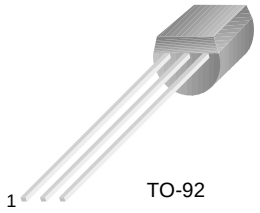
FAIRCHILD SEMICONDUCTOR®

KSB1116S

Audio Frequency Power Amplifier & Medium Speed Switching



TO-92

1. Emitter 2. Base 3. Collector

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°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	-6	V
I_C	Collector Current (DC)	-1	A
I_{CP}	* Collector Current (Pulse)	-2	A
P_C	Collector Power Dissipation	0.75	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB}= -60V, I_E=0			-100	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}= -6V, I_C= 0			-100	nA
h_{FE1} h_{FE2}	* DC Current Gain	V_{CE}= -2V, I_C= -100mA V_{CE}= -2V, I_C = -1A	135 81		600	
V_{BE} (on)	* Base-Emitter On Voltage	V_{CE}= -2V, I_C= -50mA	-600	-650	-700	mV
V_{CE} (sat)	* Collector-Emitter Saturation Voltage	I_C= -1A, I_B= -50mA		-0.2	-0.3	V
V_{BE} (sat)	* Base-Emitter Saturation Voltage	I_C= -1A, I_B= -50mA		-0.9	-1.2	V
C_{ob}	Output Capacitance	V_{CB}= -10V, I_E=0, f=1MHz		25		pF
f_T	Current Gain Bandwidth Product	V_{CE}= -2V, I_C= -100mA	70	120		MHz
t_{ON}	Turn On Time	V_{CC}= -10V, I_C= -100mA I_{B1}= -I_{B2}= -10mA V_{BE} (off)= 2~3V		0.07		µs
t_{STG}	Storage Time			0.7		µs
t_F	Fall Time			0.07		µs

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

h_{FE} Classification

Classification	Y	G	L
h_{FE1}	135 ~ 270	200 ~ 400	300 ~ 600

Typical Characteristics

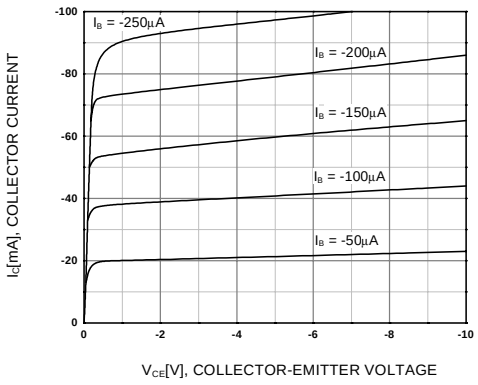


Figure 1. Static Characteristic

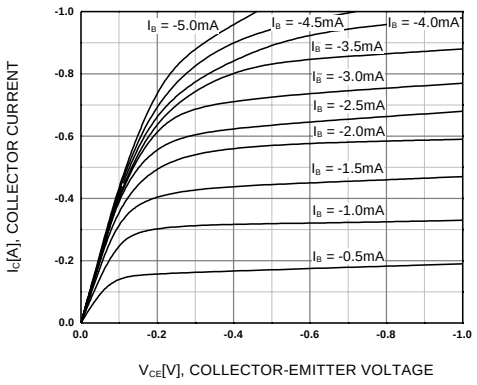


Figure 2. Static Characteristic

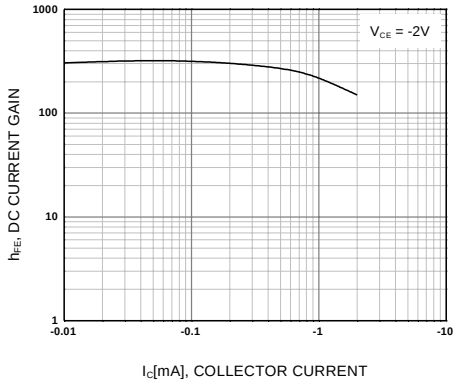


Figure 3. DC current Gain

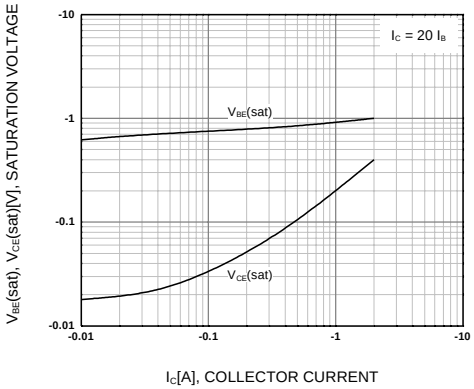


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

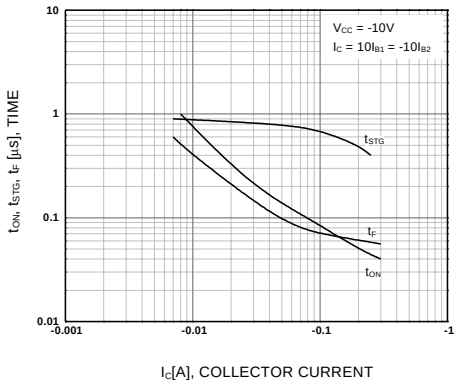


Figure 5. Switching Time

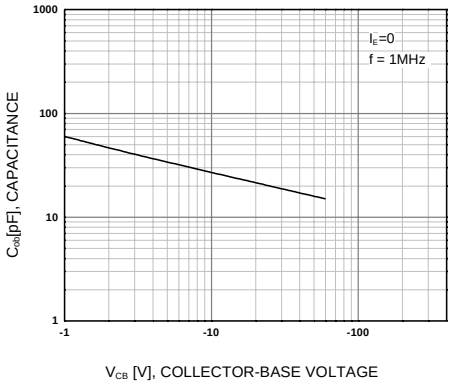


Figure 6. Collector Output Capacitance

Typical Characteristics (Continued)

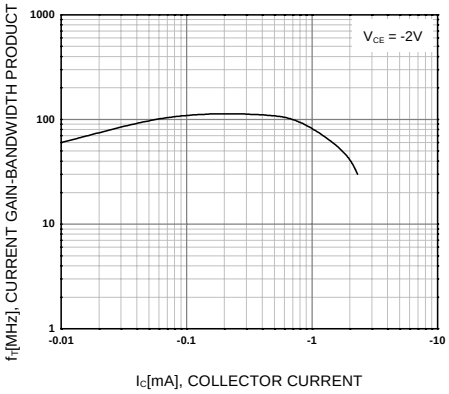


Figure 7. Current Gain Bandwidth Product

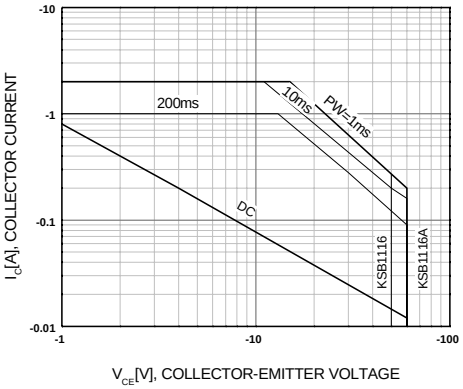


Figure 8. Safe Operating Area

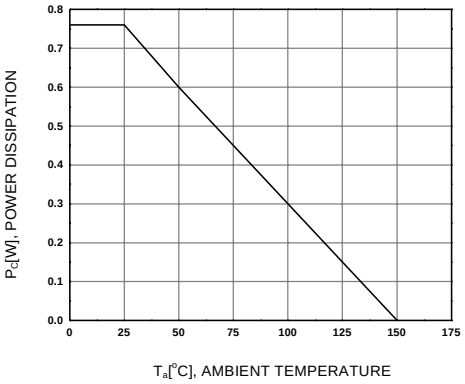
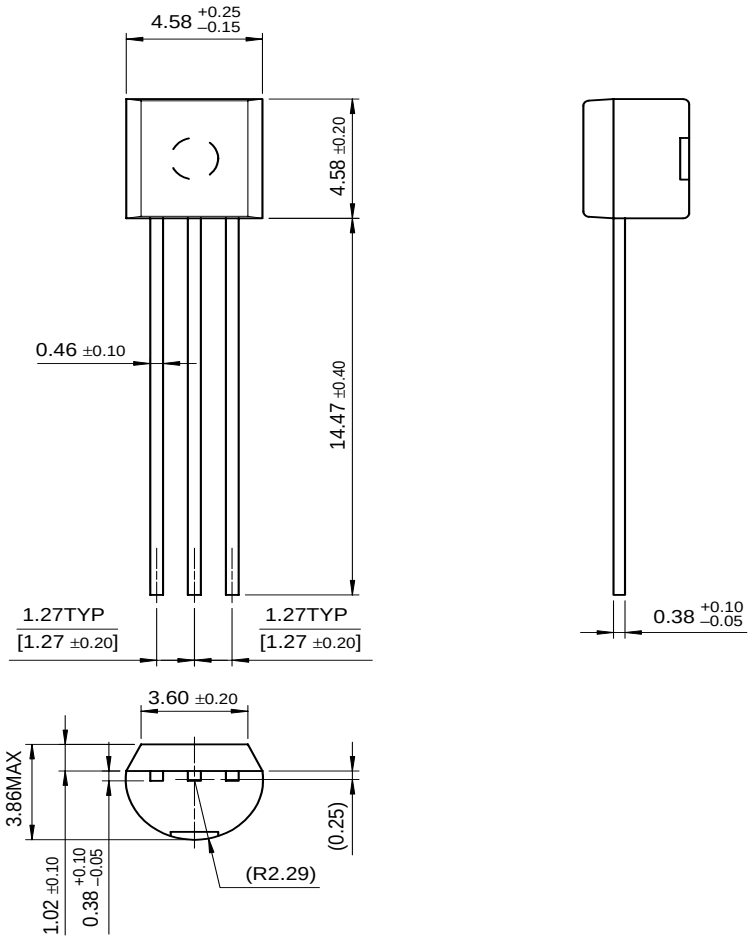


Figure 9. Power Derating

Package Dimensions

TO-92



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™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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