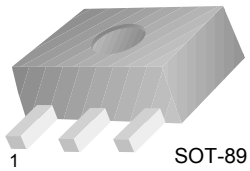
FAIRCHILD SEMICONDUCTOR®

July 2005

KSB1121
PNP Epitaxial Planar Silicon Transistor

High Current Driver Applications

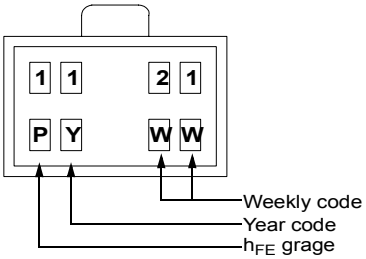
- Low Collector-Emitter Saturation Voltage
- Large Current Capacity
- Fast Switching Speed
- Complement to KSD1621



SOT-89

1. Base 2. Collector 3. Emitter

Marking



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-2	A
P_C P_C*	Collector Power Dissipation	500 1.3	mW W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

* Mounted on Ceramic Board (250mm^2 x 0.8mm)

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 = -10μA, I_E = 0	-30			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = -1mA, I_B = 0	-25			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -10μA, I_C = 0	-6			V
I_{CBO}	Collector Cut-off Current	V_{CB} = -20V, I_E = 0			-100	nA
I_{EBO}	Emitter Cut-off Current	V_{BE} = -4V, I_C = 0			-100	nA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = -2V, I_C = -0.1A V_{CE} = -2V, I_C = -1.5A	100 65		560	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C = -1.5A, I_B = -75mA		-0.35	-0.6	V
V_{BE} (sat)	Base-Emitter Saturation Voltage	I_C = -1.5A, I_B = -75mA		-0.85	-1.2	V

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Electrical Characteristics (Continued) T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
f_T	Current Gain Bandwidth Product	V_{CE} = -10V, I_C = -50mA		150		MHz
C_{ob}	Output Capacitance	V_{CB} = -10V, I_E = 0, f = 1MHz		32		pF
t_{ON}	Turn On Time *	V_{CC} = -12V, V_{BE} = -5V I_{B1} = -I_{B2} = -25mA I_C= -500mA, R_L = 24Ω		60		ns
t_{STG}	Storage Time *			350		ns
t_F	Fall time *			25		ns

h_{FE} Classification

Classification	R	S	T	U
h_{FE1}	100 ~ 200	140 ~ 280	200 ~ 400	280 ~ 560

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
1121	KSB1121	SOT-89	13”	--	4,000

Typical Performance Characteristics

Figure 1. Static Characteristic

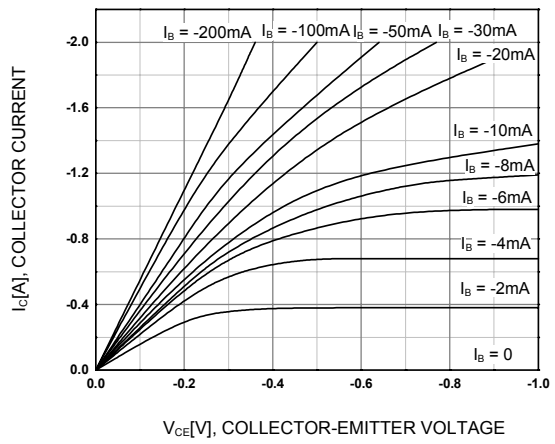


Figure 2. DC Current Gain

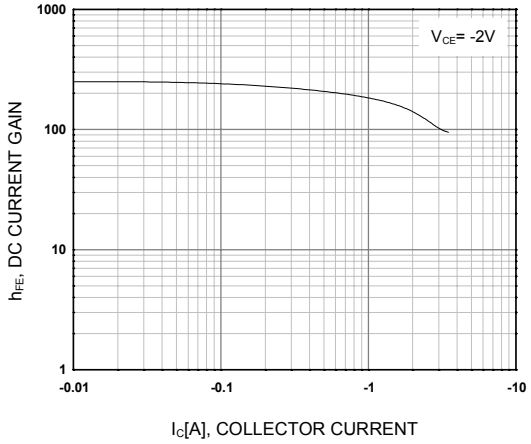


Figure 3. Collector-Emitter Saturation Voltage

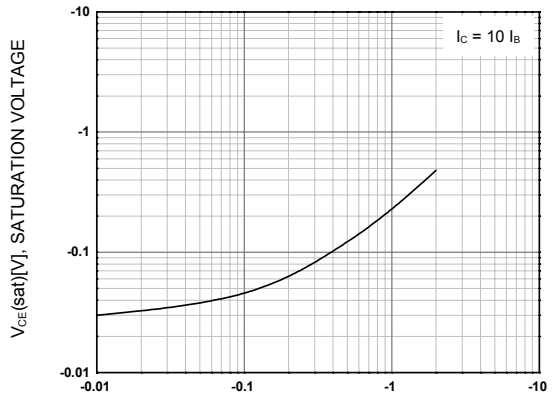


Figure 4. Base-Emitter On Voltage

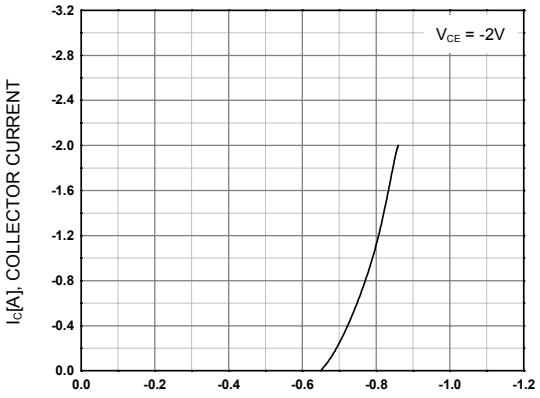


Figure 5. Collector Output Capacitance

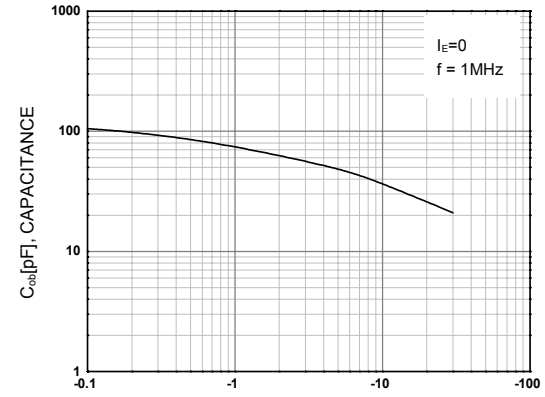
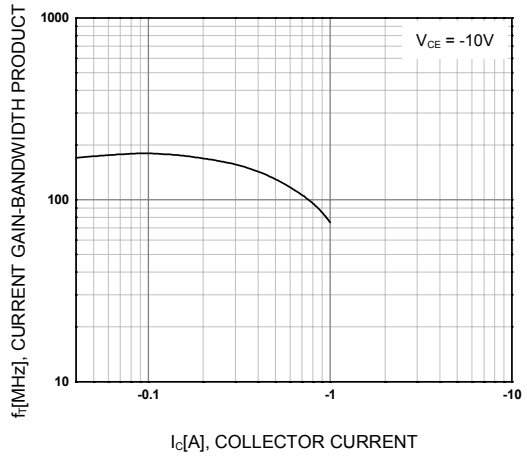
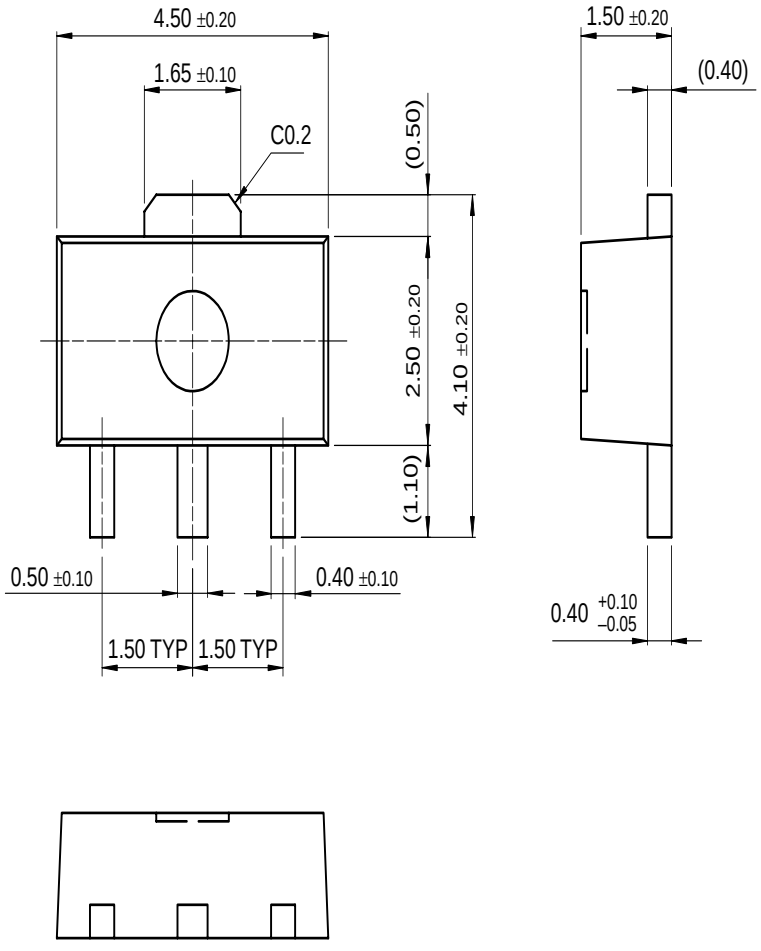


Figure 6. Current Gain Bandwidth Product



Mechanical Dimensions

SOT-89



Dimensions in Millimeters

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GTO™
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ISOPLANAR™
LittleFET™
MICROCOUPLER™
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OCX™
OCXPro™
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PowerEdge™
PowerSaver™
PowerTrench®
QFET®
QS™
QT Optoelectronics™
Quiet Series™
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RapidConnect™
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Stealth™
SuperFET™
SuperSOT™-3
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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.
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