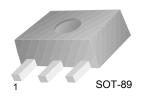


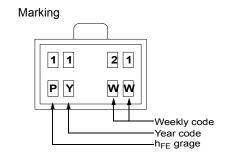
# **KSB1121 PNP Epitaxial Planar Silicon Transistor**

## **High Current Driver Applications**

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



1. Base 2. Collector 3. Emitter



## Absolute Maximum Ratings T<sub>a</sub> = 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
$V_{EBO}$	Emitter-Base Voltage	-6	V
I <sub>C</sub>	Collector Current	-2	A
P <sub>C</sub> P <sub>C</sub> *	Collector Power Dissipation	500 1.3	mW W
$T_J$	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

<sup>\*</sup> Mounted on Ceramic Board (250mm<sup>2</sup> x 0.8mm)

#### Electrical Characteristics T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	$I_C = -10\mu A, I_E = 0$	-30			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	$I_C = -1 \text{mA}, I_B = 0$	-25			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	$I_E = -10\mu A, I_C = 0$	-6			V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = -20V, I <sub>E</sub> = 0			-100	nA
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{BE} = -4V, I_{C} = 0$			-100	nA
h <sub>FE1</sub> h <sub>FE2</sub>	DC Current Gain	$V_{CE} = -2V, I_{C} = -0.1A$ $V_{CE} = -2V, I_{C} = -1.5A$	100 65		560	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	$I_C = -1.5A$ , $I_B = -75mA$		-0.35	-0.6	V
V <sub>BE</sub> (sat)	Base-Emitter Saturation Voltage	$I_C = -1.5A$ , $I_B = -75mA$		-0.85	-1.2	V

## Electrical Characteristics (continued) Ta = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> = -10V, I <sub>C</sub> = -50mA		150		MHz
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz		32		pF
t <sub>ON</sub>	Turn On Time *	V <sub>CC</sub> = -12V, V <sub>BE</sub> = -5V		60		ns
t <sub>STG</sub>	Storage Time *	$I_{B1} = -I_{B2} = -25\text{mA}$ $I_{C} = -500\text{mA}, R_{L} = 24\Omega$		350		ns
t <sub>F</sub>	Fall time *	10300111A, INL - 2432		25		ns

## h<sub>FE</sub> Classification

Classification	R	S	Т	U
h <sub>FE1</sub>	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

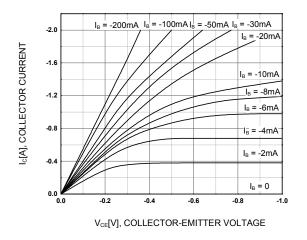


Figure 2. DC Current Gain

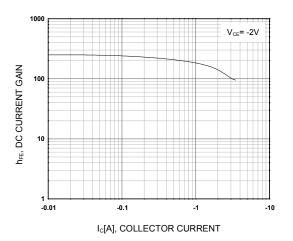


Figure 3. Collector-Emitter Saturation Voltage

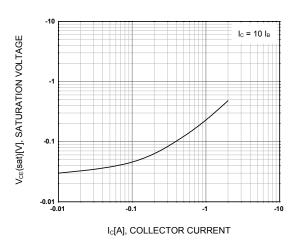


Figure 4. Base-Emitter On Voltage

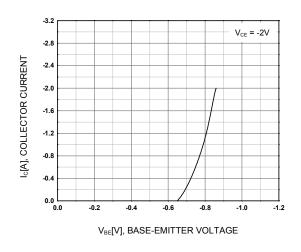


Figure 5. Collector Output Capacitance

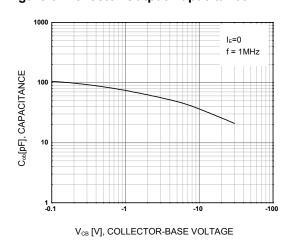
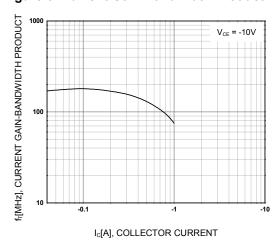
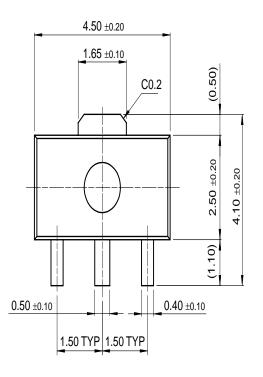


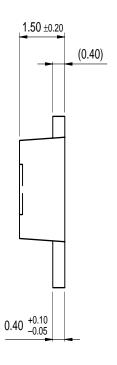
Figure 6. Current Gain Bandwidth Product

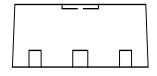


## **Mechanical Dimensions**

# **SOT-89**







**Dimensions in Millimeters** 

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