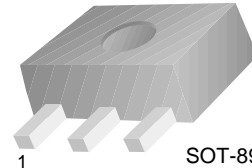


KSB1121

KSB1121

High Current Driver Applications

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



SOT-89
1. Base 2. Collector 3. Emitter

PNP Epitaxial Planar Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ 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	Collector Power Dissipation	500	mW
P_C^*		1.3	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

* Mounted on Ceramic Board (250mm² x 0.8mm)

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

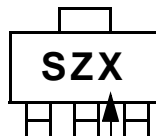
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-30			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-25			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}, I_C = 0$	-6			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -20\text{V}, I_E = 0$			-100	nA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = -4\text{V}, I_C = 0$			-100	nA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = -2\text{V}, I_C = -0.1\text{A}$ $V_{CE} = -2\text{V}, I_C = -1.5\text{A}$	100 65		560	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -1.5\text{A}, I_B = -75\text{mA}$		-0.35	-0.6	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -1.5\text{A}, I_B = -75\text{mA}$		-0.85	-1.2	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$		150		MHz
C_{ob}	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		32		pF
t_{ON}	* Turn On Time	$V_{CC} = -12\text{V}, V_{BE} = -5\text{V}$ $I_{B1} = -I_{B2} = -25\text{mA}$ $I_C = -500\text{mA}, R_L = 24\Omega$		60		ns
t_{STG}	* Storage Time			350		ns
t_F	* Fall time			25		ns

* Pulse Test: $PW \leq 20\mu\text{s}$, Duty Cycle $\leq 1\%$

h_{FE} Classification

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

Marking



h_{FE} Grade

Typical Characteristics

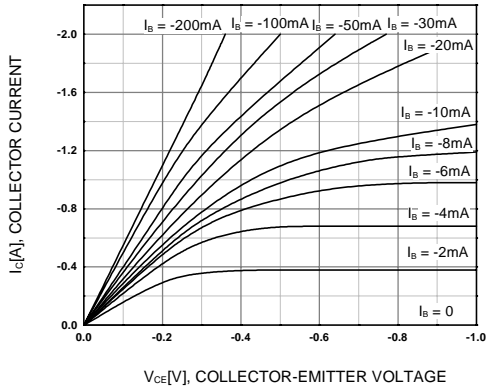


Figure 1. Static Characteristic

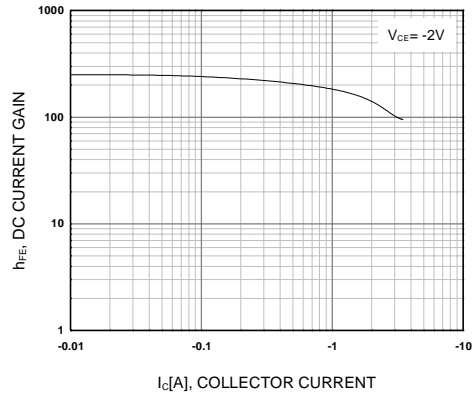


Figure 2. DC current Gain

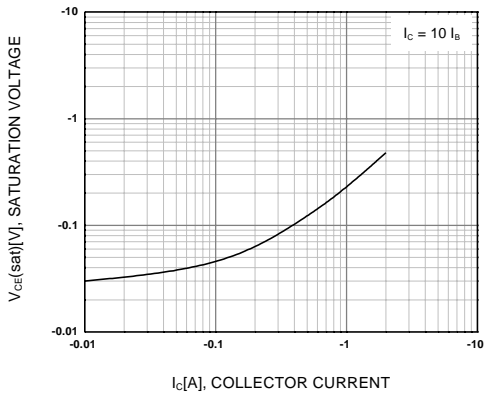


Figure 3. Collector-Emitter Saturation Voltage

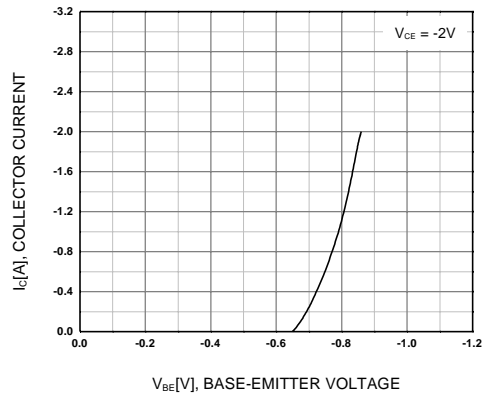


Figure 4. Base-Emitter On Voltage

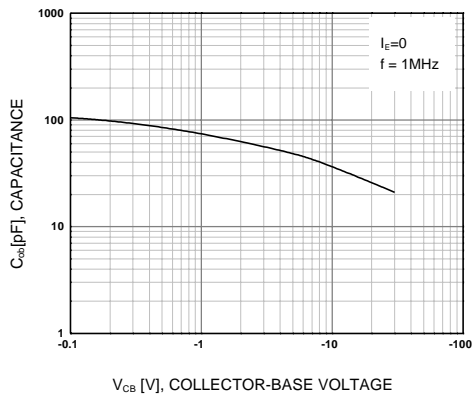


Figure 5. Collector Output Capacitance

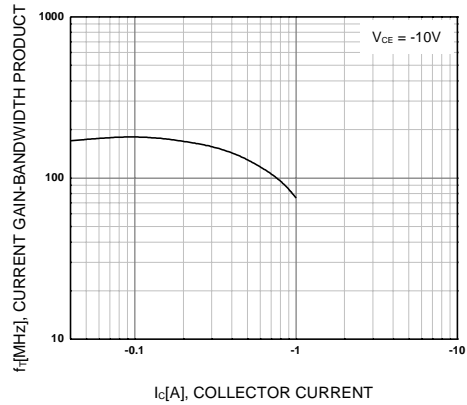
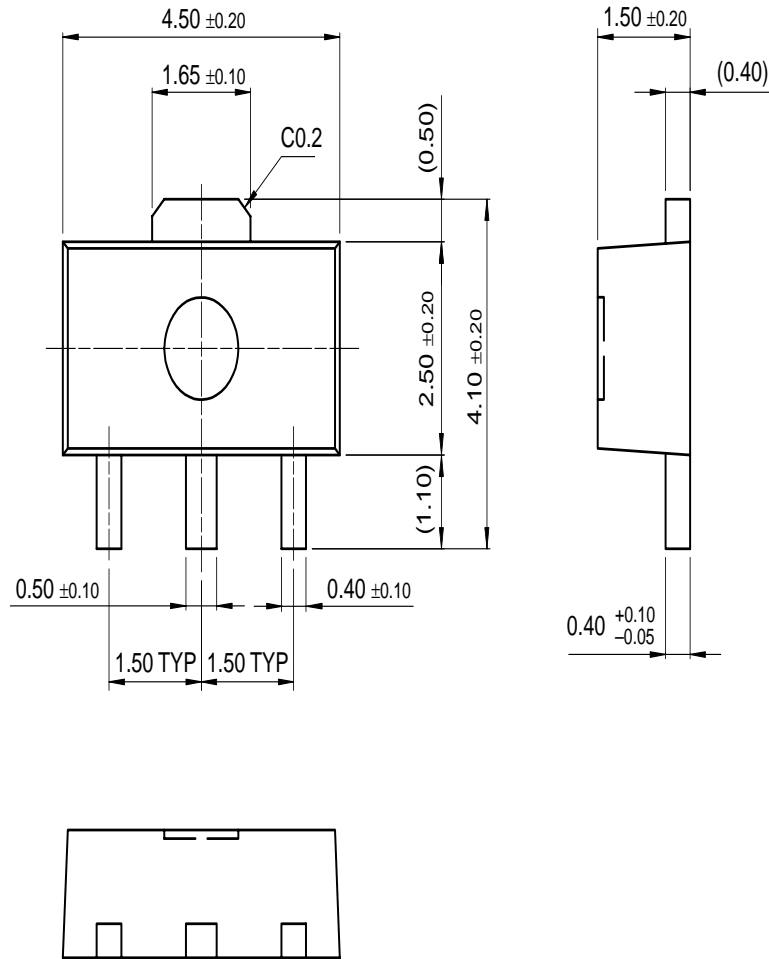


Figure 6. Current Gain Bandwidth Product

Package Dimensions

SOT-89



Dimensions in Millimeters

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E ² CMOS™	LittleFET™	QT Optoelectronics™	TinyLogic™
EnSigna™	MicroFET™	Quiet Series™	UHC™
FACT™	MICROWIRE™	SLIENT SWITCHER®	UltraFET®
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