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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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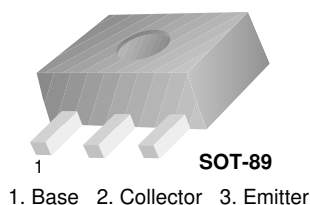


KSD1621

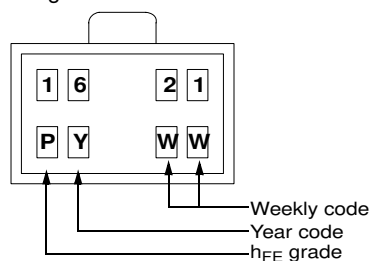
NPN Epitaxial Silicon Transistor

Features

- High Current Driver Applications
- Low Collector-Emitter Saturation Voltage
- Large Current Capacity and Wide SOA
- Fast Switching Speed
- Complement to KSB1121



Marking



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 ($T_A = 25^\circ\text{C}$) Derating Rate above 25°C	500 4	mW mW/ $^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^\circ\text{C}$

Mounted on Ceramic Board ($250\text{mm}^2 \times 0.8\text{mm}$)

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	$I_C = 1.5\text{A}, I_B = 75\text{mA}$		0.18	0.4	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	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		19		pF
t_{ON}	Turn On Time *	$V_{CC} = 12\text{V}, V_{BE} = 5\text{V}$ $I_{B1} = -I_{B2} = 25\text{mA}$ $I_C = 0.5\text{A}, R_L = 25\Omega$		60		ns
t_{STG}	Storage Time *			500		ns
t_F	Fall Time *			25		ns

 h_{FE} Classification

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

Package Marking and Ordering Information

Device	Device Marking	Package	Reel Size	Tape Width	Quantity
KSD1621RTF	Line 1: 1621 Line 2: R&3	SOT-89	13"	--	4,000
KSD1621STF	Line 1: 1621 Line 2: S&3	SOT-89	13"	--	4,000
KSD1621TTF	Line 1: 1621 Line 2: T&3	SOT-89	13"	--	4,000
KSD1621UTF	Line 1: 1621 Line 2: U&3	SOT-89	13"	--	4,000

Typical Performance Characteristics

Figure 1. Static Characteristic

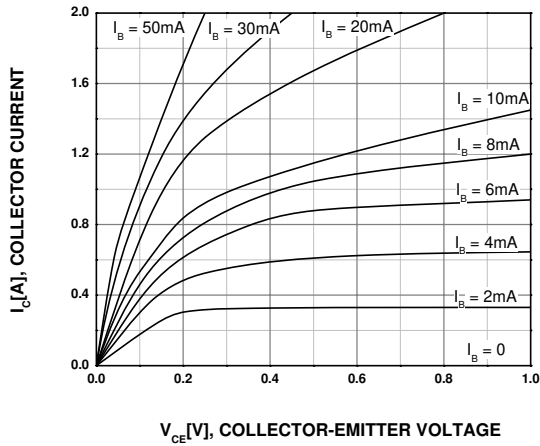


Figure 2. DC Current Gain

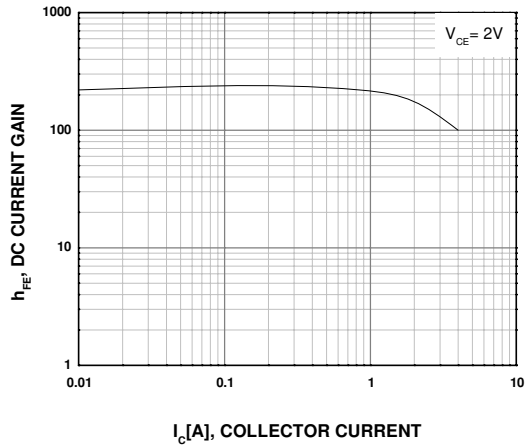


Figure 3. Collector-Emitter Saturation Voltage

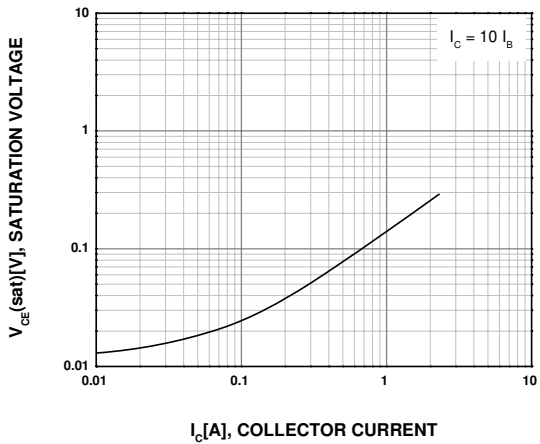


Figure 4. Base-Emitter On Voltage

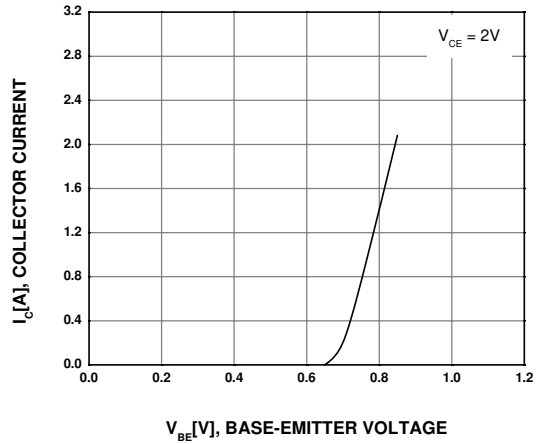


Figure 5. Collector Output Capacitance

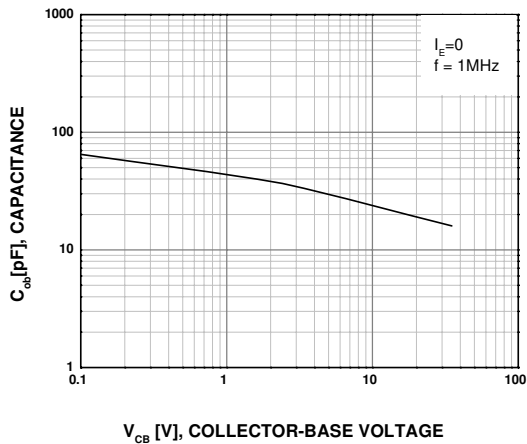
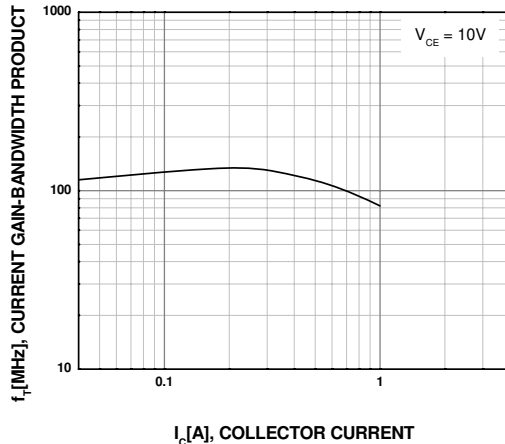


Figure 6. Current Gain Bandwidth Product



Typical Performance Characteristics (Continued)

Figure 7. Safe Operating Area

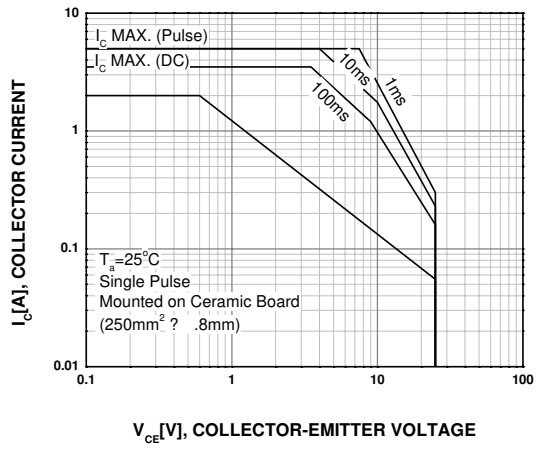
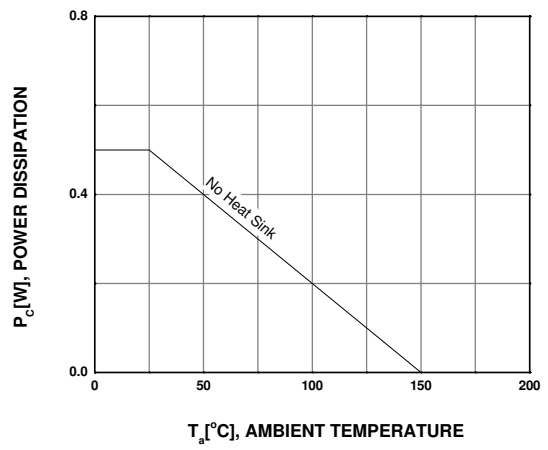
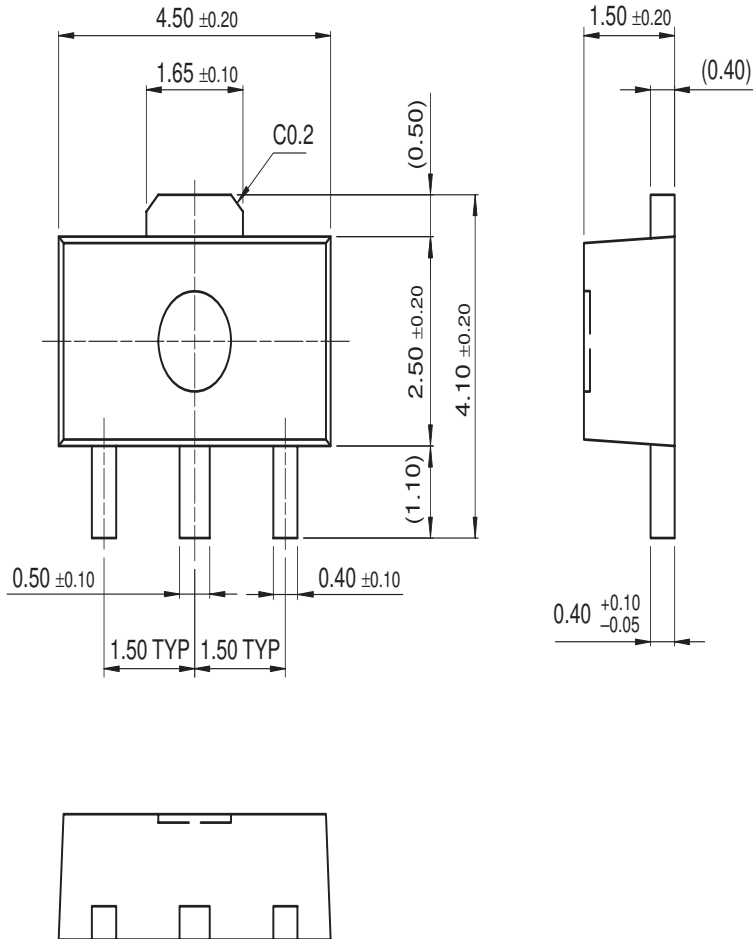


Figure 8. Power Derating



Mechanical Dimensions

SOT-89






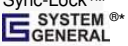


Dimensions in Millimeters



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