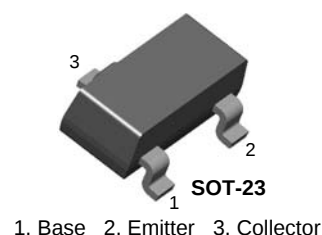


KST92/KST93

PNP Epitaxial Silicon Transistor

Features

- High Voltage Transistor
- High Current, Wide SOA



Absolute Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector Base Voltage		
	: KST92	-300	V
	: KST93	-200	V
V_{CEO}	Collector-Emitter Voltage		
	: KST92	-300	V
	: KST93	-200	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
T_J, T_{STG}	Junction and Storage Temperature	150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation ($T_A=25^\circ\text{C}$)	250	mW
$R_{\theta JA}^*$	Thermal Resistance, Junction to Ambient	500	$^\circ\text{C/W}$

* note) minimum land pattern size.

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

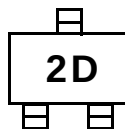
Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage : KST92 : KST93	$I_C = -100\mu\text{A}, I_E = 0$	-300 -200		V V
BV_{CEO}	* Collector-Emitter Breakdown Voltage : KST92 : KST93	$I_C = -1\text{mA}, I_B = 0$	-300 -200		V V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
I_{CBO}	Collector Cut-off Current : KST92 : KST93	$V_{CB} = -200\text{V}, I_E = 0$ $V_{CB} = -160\text{V}, I_E = 0$		-0.25 -0.25	μA μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	μA
h_{FE}	* DC Current Gain	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$ $V_{CE} = -10\text{V}, I_C = -10\text{mA}$ $V_{CE} = -10\text{V}, I_C = -30\text{mA}$	25 40 25		
$V_{CE}(\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.5	V
$V_{BE}(\text{sat})$	* Base-Emitter Saturation Voltage	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.9	V
C_{ob}	Output Capacitance : KST92 : KST93	$V_{CB} = -20\text{V}, I_E = 0$ $f = 1\text{MHz}$		6 8	pF pF
f_T	Current Gain Bandwidth Product	$V_{CE} = -20\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	50		MHz

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Marking Code

Type	KST92	KST93
Mark	2D	2E

Marking



Typical Performance Characteristics

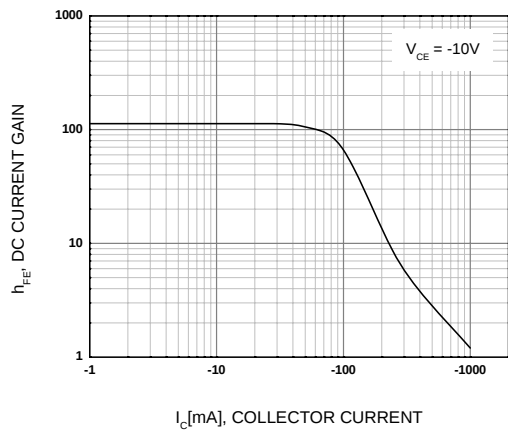


Figure 1. DC current Gain

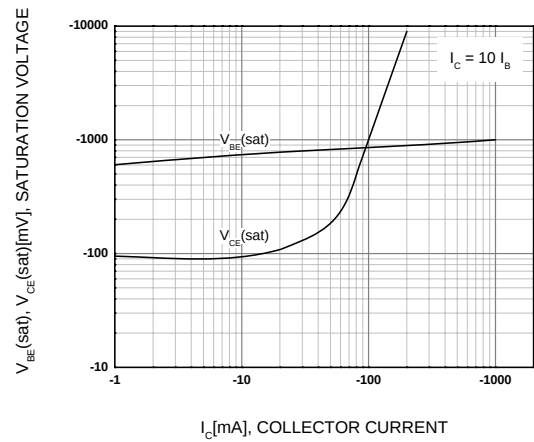


Figure 2. Saturation Voltage

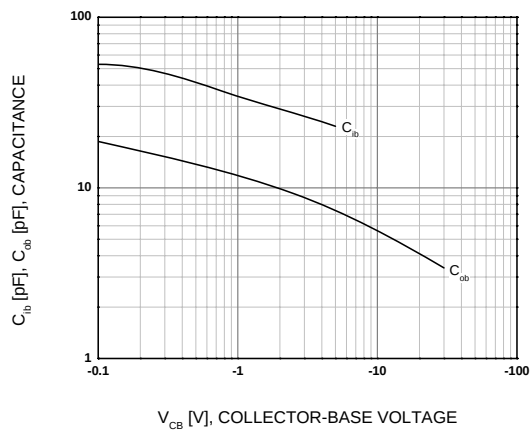


Figure 3. Capacitance

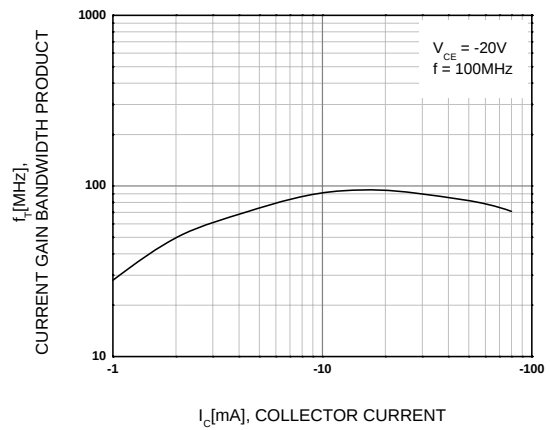


Figure 4. Current Gain Bandwidth Product

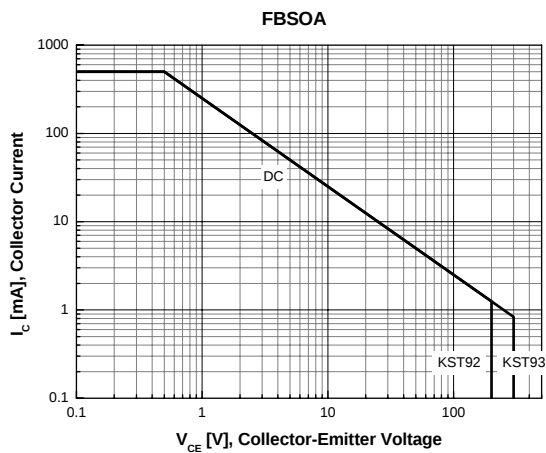
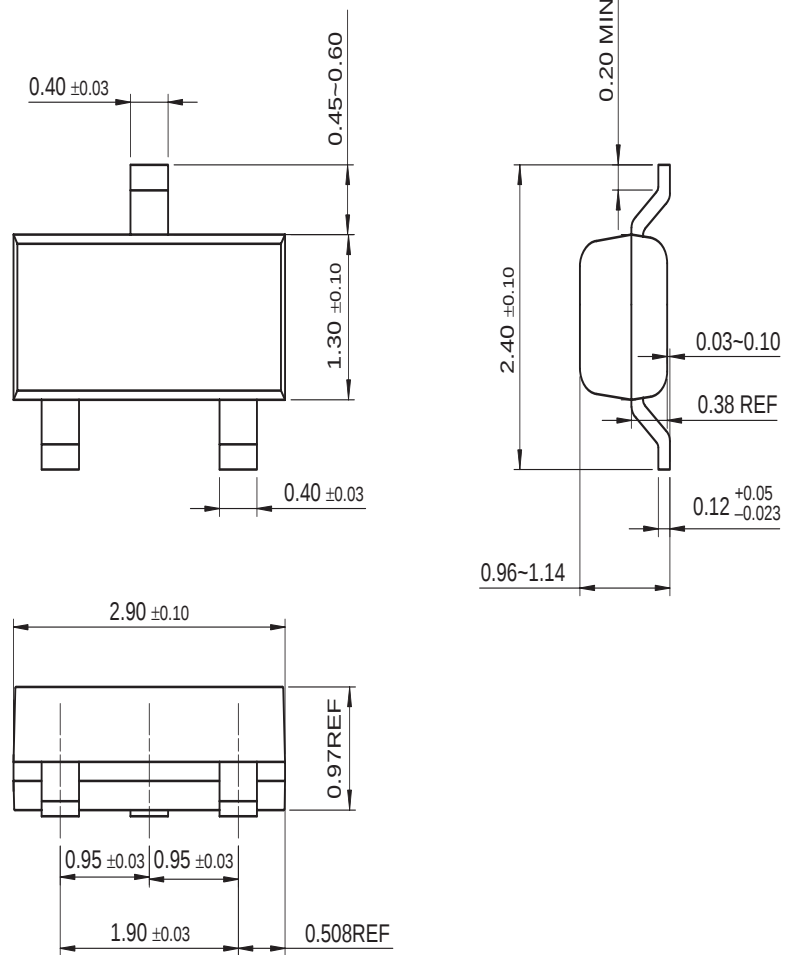


Figure 5. Active-Region Safe Operating Area

Physical Dimension

SOT-23



Dimensions in Millimeters



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