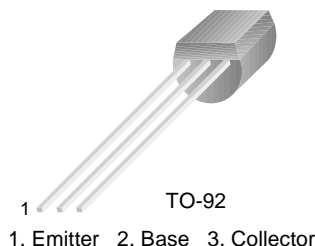


KSP92/93

KSP92/93

High Voltage Transistor



PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : KSP92 : KSP93	-300	V
		-200	V
V_{CEO}	Collector-Emitter Voltage : KSP92 : KSP93	-300	V
		-200	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation ($T_a=25^\circ\text{C}$)	625	mW
	Derate above 25°C	5	mW/ $^\circ\text{C}$
P_C	Collector Power Dissipation ($T_C=25^\circ\text{C}$)	1.5	W
	Derate above 25°C	12	mW/ $^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage : KSP92 : KSP93	$I_C = -100\mu\text{A}, I_E = 0$	-300		V
			-200		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage : KSP92 : KSP93	$I_C = -1\text{mA}, I_B = 0$	-300		V
			-200		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
I_{CBO}	Collector Cur-off Current : KSP92 : KSP93	$V_{CB} = -200\text{V}, I_E = 0$ $V_{CB} = -160\text{V}, I_E = 0$		-0.25	μA
				-0.25	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -3\text{V}, I_C = 0$		-0.10	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	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.50	V
$V_{BE}(\text{sat})$	* Base-Emitter Saturation Voltage	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.90	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$	50		MHz
C_{ob}	Output Capacitance : KSP92 : KSP93	$V_{CB} = -20\text{V}, I_E = 0$ $f = 1\text{MHz}$		6	pF
				8	pF

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

Typical Characteristics

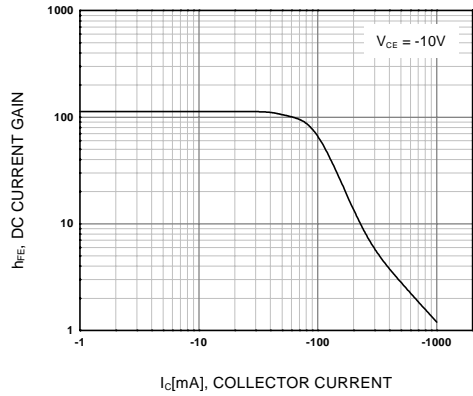


Figure 1. DC current Gain

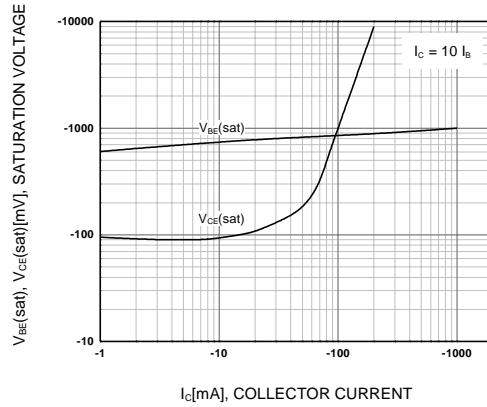


Figure 2. Saturation Voltage

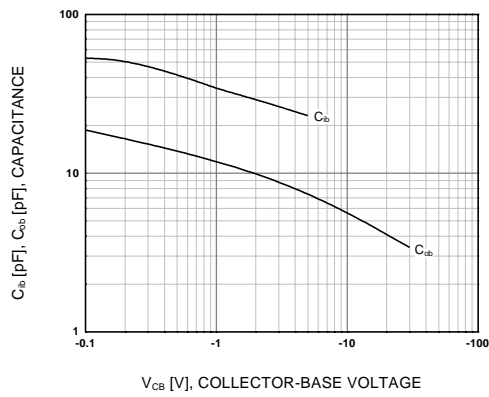


Figure 3. Capacitance

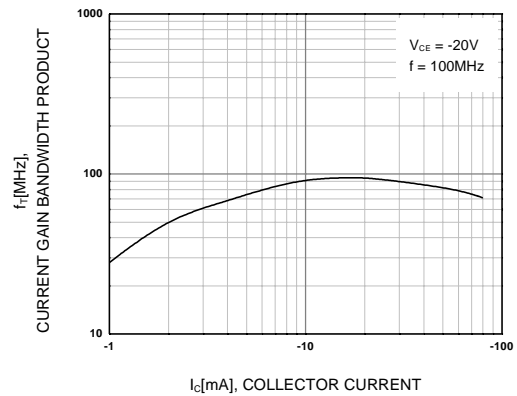


Figure 4. Current Gain Bandwidth Product

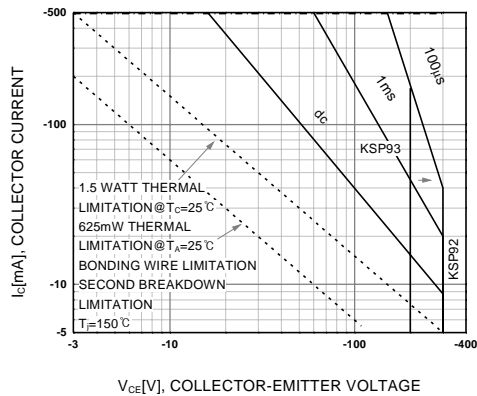


Figure 5. Active-Region Safe Operating Area

Package Dimensions

TO-92



Dimensions in Millimeters

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