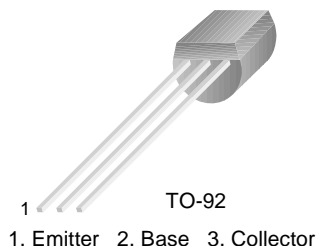


# KSP42/43

## High Voltage Transistor

- Collector-Emitter Voltage:  $V_{CEO}$ =KSP42: 300V  
KSP43: 200V
- Collector Power Dissipation:  $P_C(\max)$ =625mW



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector Base Voltage		
	: KSP42	300	V
	: KSP43	200	V
$V_{CEO}$	Collector-Emitter Voltage		
	: KSP42	300	V
	: KSP43	200	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	500	mA
$P_C$	Collector Power Dissipation	625	mW
$T_J$	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	$I_C=100\mu\text{A}, I_E=0$			
	: KSP42		300		V
	: KSP43		200		V
$BV_{CEO}$	* Collector -Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$			
	: KSP42		300		V
	: KSP43		200		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=100\mu\text{A}, I_C=0$	6		V
$I_{CBO}$	Collector Cut-off Current				
	: KSP42	$V_{CB}=200\text{V}, I_E=0$		100	nA
	: KSP43	$V_{CB}=160\text{V}, I_E=0$		100	nA
$I_{EBO}$	Emitter Cut-off Current				
	: KSP42	$V_{BE}=6\text{V}, I_C=0$		100	nA
	: KSP43	$V_{BE}=4\text{V}, I_C=0$		100	nA
$h_{FE}$	* 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 40		
$V_{CE}(\text{sat})$	* 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	$V_{CB}=20\text{V}, I_E=0$ $f=1\text{MHz}$		3 4	pF pF
	: KSP42				
	: KSP43				
$f_T$	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 Cycles  $\leq 2\%$

# Typical Characteristics

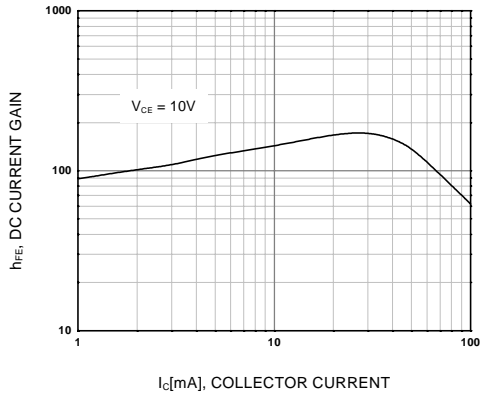


Figure 1. DC current Gain

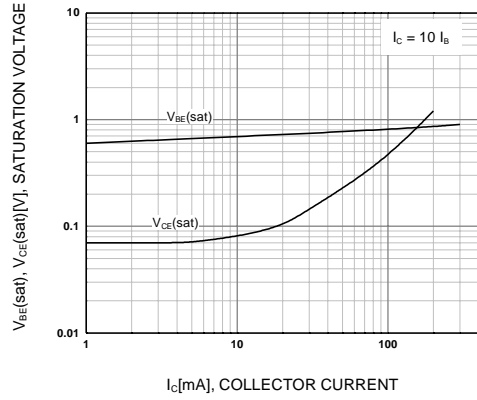


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

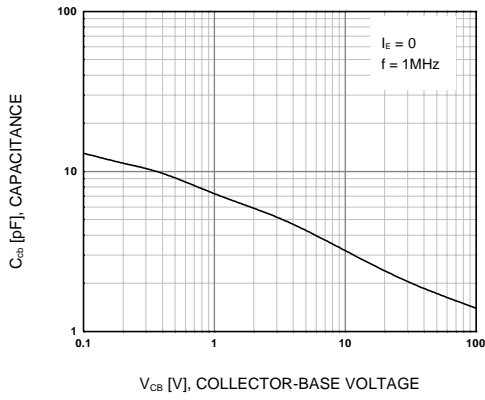


Figure 3. Collector-Base Capacitance

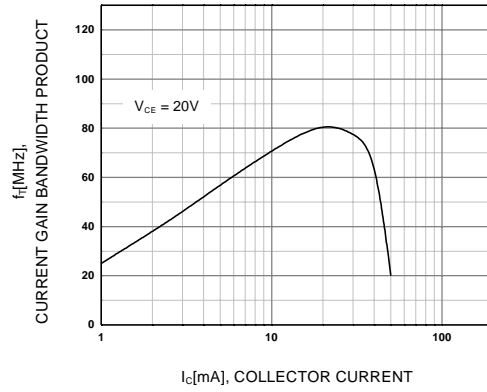
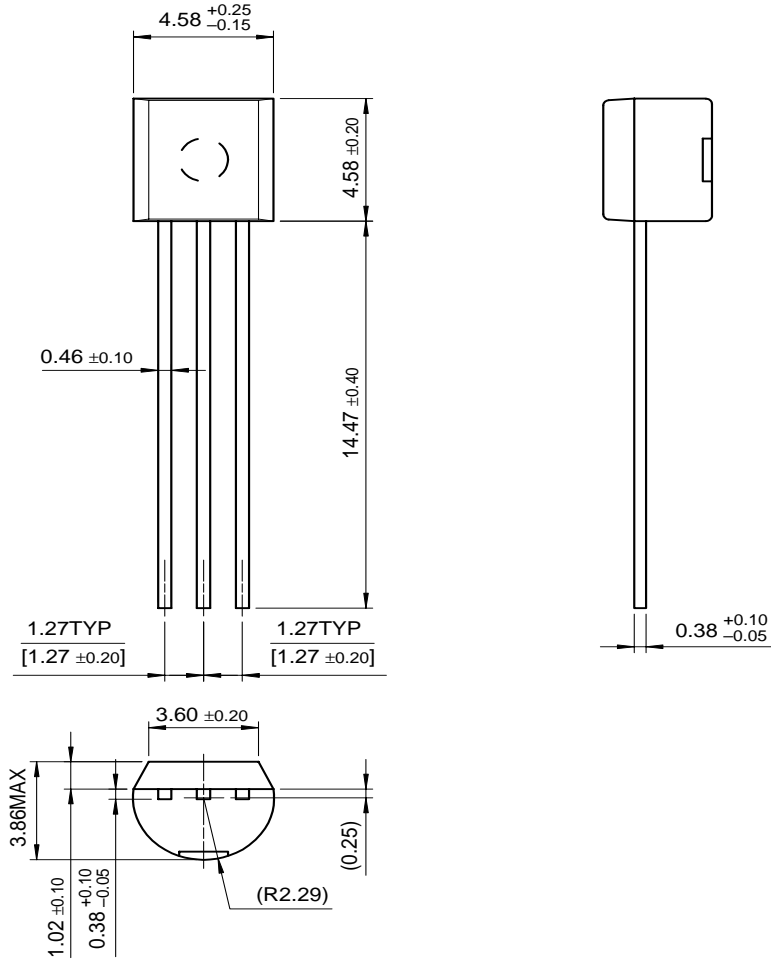


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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