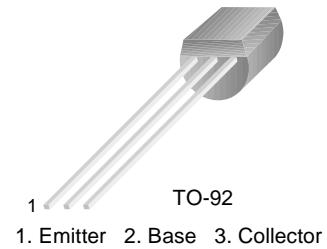


## KSP42/43

### 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**  $T_a=25^\circ C$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector Base Voltage : KSP42 : KSP43	300 200	V
$V_{CEO}$	Collector-Emitter Voltage : KSP42 : KSP43	300 200	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	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

**Electrical Characteristics**  $T_a=25^\circ C$  unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage : KSP42 : KSP43	$I_C=100\mu A, I_E=0$	300 200		V
$BV_{CEO}$	* Collector -Emitter Breakdown Voltage : KSP42 : KSP43	$I_C=1mA, I_B=0$	300 200		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=100\mu A, I_C=0$	6		V
$I_{CBO}$	Collector Cut-off Current : KSP42 : KSP43	$V_{CB}=200V, I_E=0$ $V_{CB}=160V, I_E=0$		100 100	nA
$I_{EBO}$	Emitter Cut-off Current : KSP42 : KSP43	$V_{BE}=6V, I_C=0$ $V_{BE}=4V, I_C=0$		100 100	nA
$h_{FE}$	* DC Current Gain	$V_{CE}=10V, I_C=1mA$ $V_{CE}=10V, I_C=10mA$ $V_{CE}=10V, I_C=30mA$	25 40 40		
$V_{CE}(\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C=20mA, I_B=2mA$		0.5	V
$V_{BE}(\text{sat})$	* Base-Emitter Saturation Voltage	$I_C=20mA, I_B=2mA$		0.9	V
$C_{ob}$	Output Capacitance : KSP42 : KSP43	$V_{CB}=20V, I_E=0$ $f=1MHz$		3 4	pF
$f_T$	Current Gain Bandwidth Product	$V_{CE}=20V, I_C=10mA$ $f=100MHz$	50		MHz

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

## Typical Characteristics

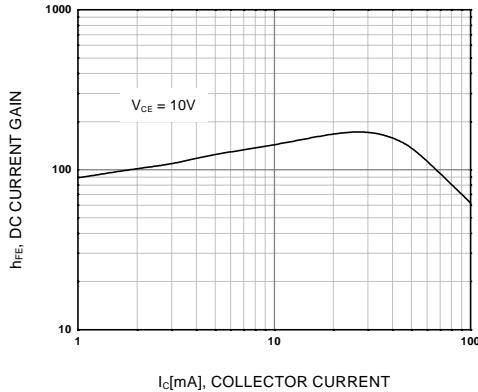


Figure 1. DC current Gain

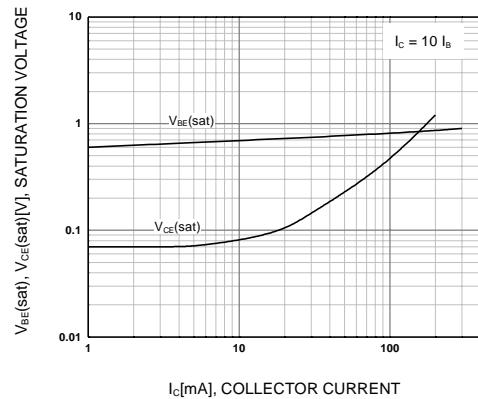


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

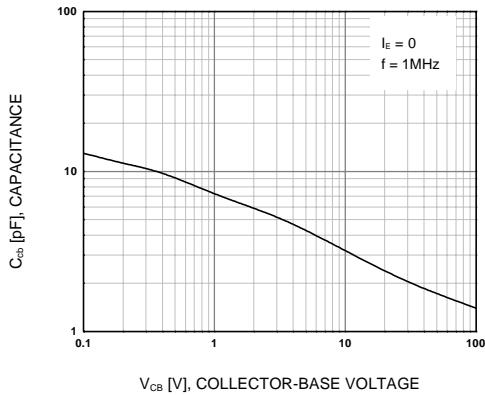


Figure 3. Collector-Base Capacitance

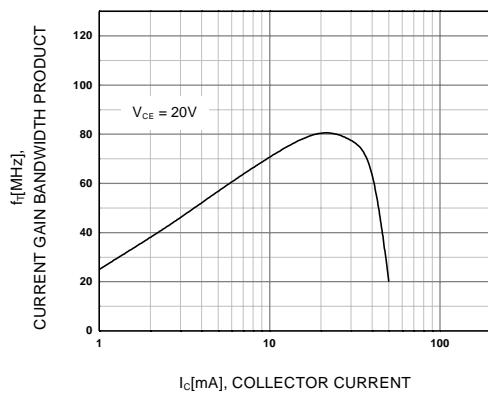
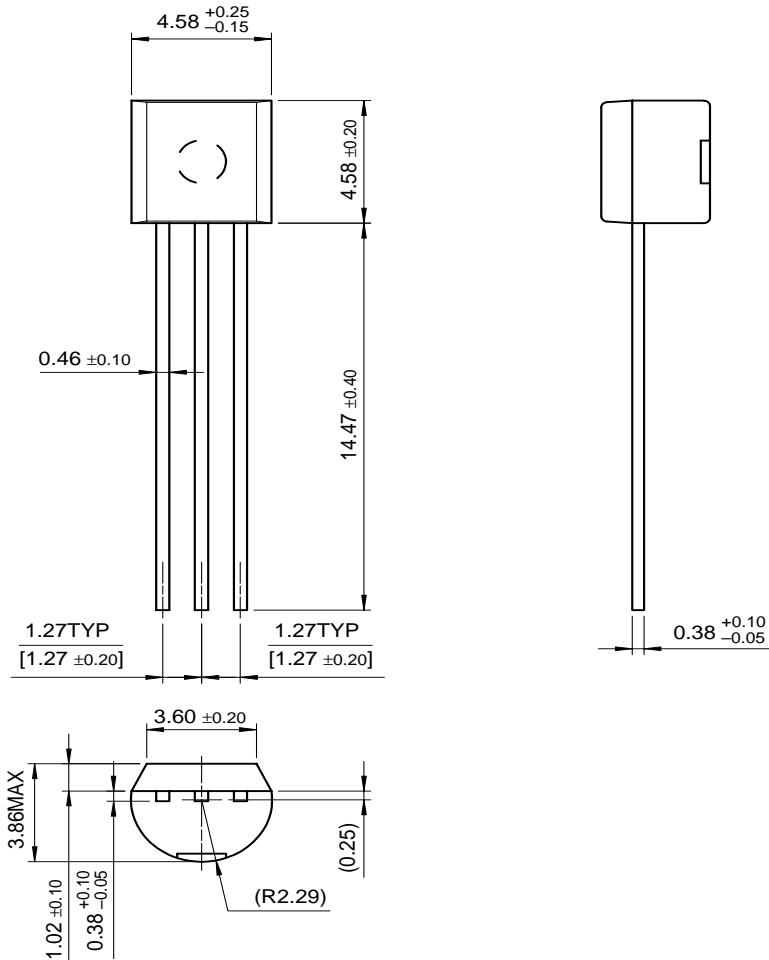


Figure 4. Current Gain Bandwidth Product

## Package Dimensions

TO-92



Dimensions in Millimeters

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