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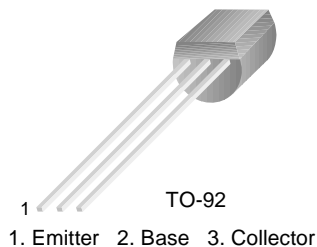
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## KSP12

### Darlington Transistor

- Collector-Emitter Voltage:  $V_{CES}=20V$
- Collector Power Dissipation:  $P_C(\text{max})=625mW$



### NPN Epitaxial Silicon Darlington Transistor

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

Symbol	Parameter	Value	Units
$V_{CES}$	Collector-Emitter Voltage	20	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$P_C$	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.	Typ.	Max.	Units
$BV_{CES}$	Collector-Emitter Breakdown Voltage	$I_C=100\mu\text{A}, I_B=0$	20			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=15V, I_E=0$			100	nA
$I_{CES}$	Collector Cut-off Current	$V_{CE}=15V, I_B=0$			100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EC}=10V, I_C=0$			100	nA
$h_{FE}$	DC Current Gain	$V_{CE}=5V, I_C=10mA$	20K			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=10mA, I_B=0.01mA$			1	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=5V, I_C=10mA$			1.4	V

# Typical Characteristics

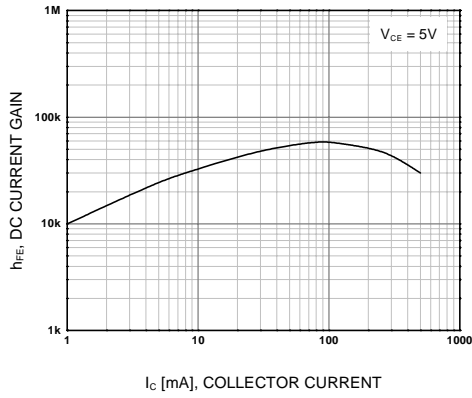


Figure 1. DC current Gain

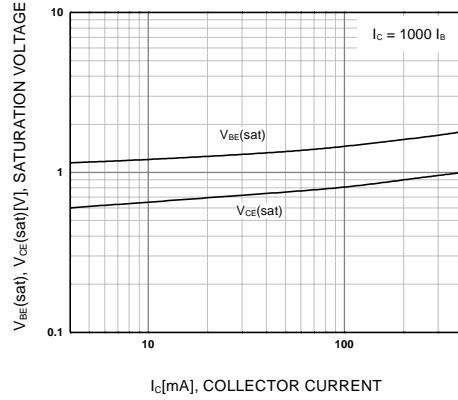


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

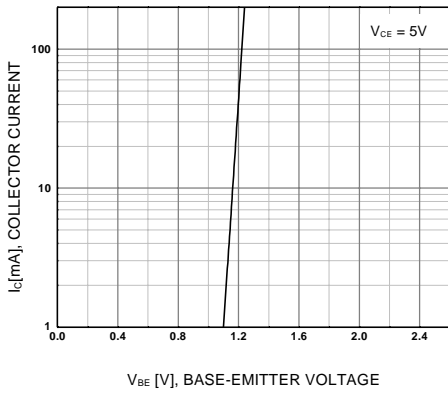


Figure 3. Base-Emitter On Voltage

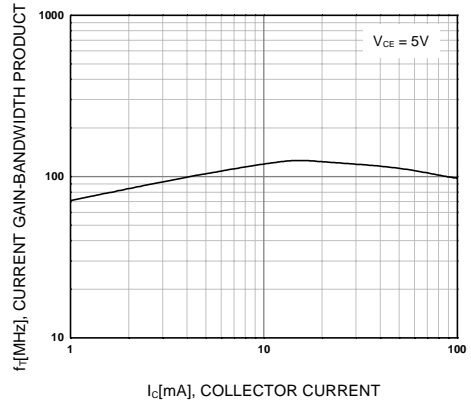


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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