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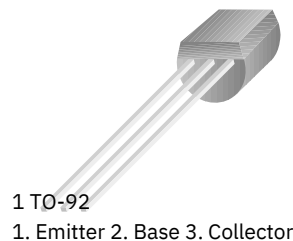
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KSP13/14

Darlington Transistor

- Collector-Emitter Voltage: $V_{CES}=30V$
- Collector Power Dissipation: $P_C(\text{max})=625mW$



NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CES}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CES}	Collector-Emitter Breakdown Voltage	$I_C=100\mu A, I_B=0$	30		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=30V, I_E=0$		100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=10V, I_C=0$		100	nA
h_{FE}	* DC Current Gain				
	: KSP13 $V_{CE}=5V, I_C=10mA$		5K		
	: KSP14		10K		
	: KSP13 $V_{CE}=5V, I_C=100mA$		10K		
	: KSP14				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100mA, I_B=0.1mA$	K	1.	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=5V, I_C=100mA$	20K	5	V
f	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=10mA$		2.	MHz
	$f=100MHz$			0	

* Pulse Test: Pulse Width 300s, Duty Cycle 2%

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Typical Characteristics

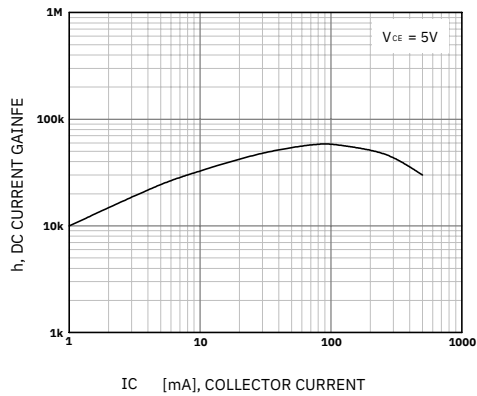


Figure 1. DC current Gain

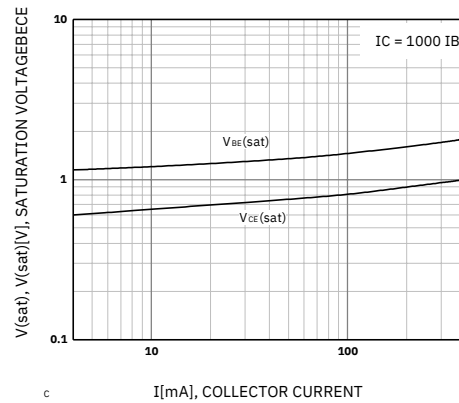


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

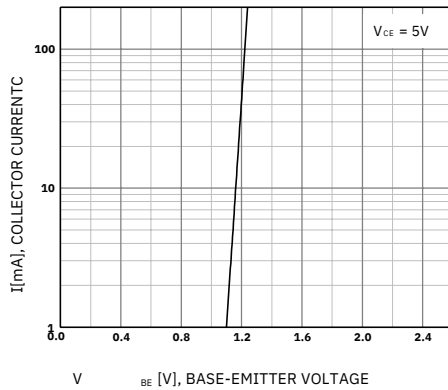


Figure 3. Base-Emitter On Voltage

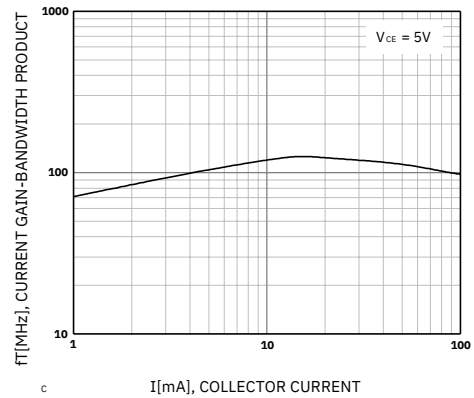
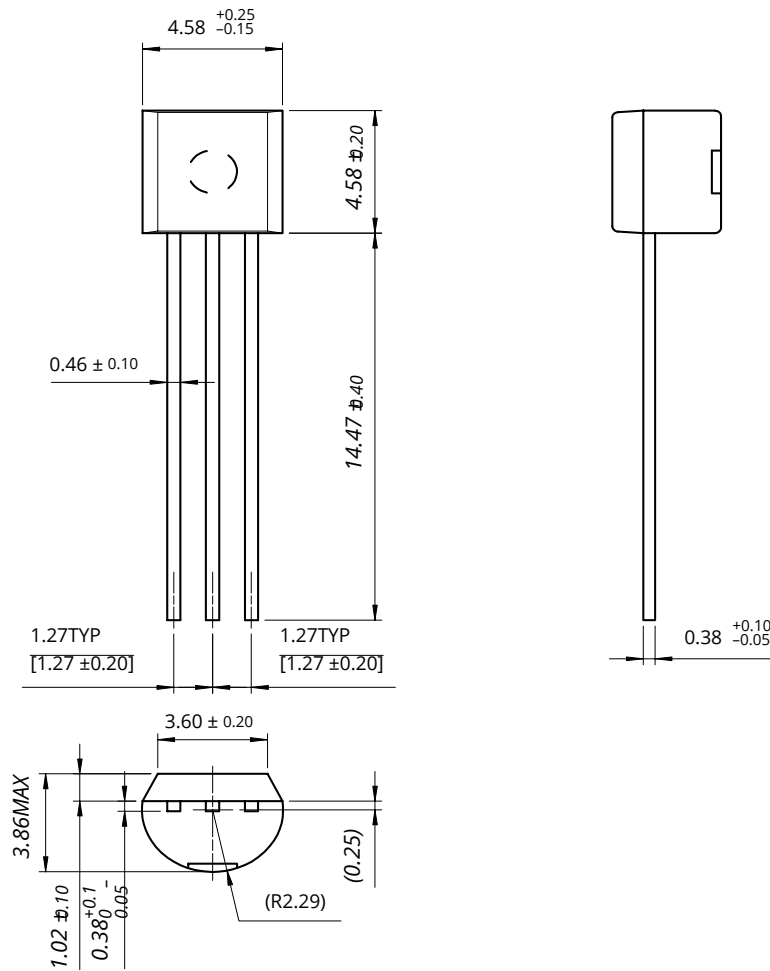


Figure 4. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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