FAIRCHILD
SEMICONDUCTOR®

KSP12

Darlington Transistor

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

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TO-92

1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings T_a=25°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	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CES}	Collector-Emitter Breakdown Voltage	I_C=100μA, 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} (sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=0.01mA			1	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}=5V, I_C=10mA			1.4	V

Typical Characteristics

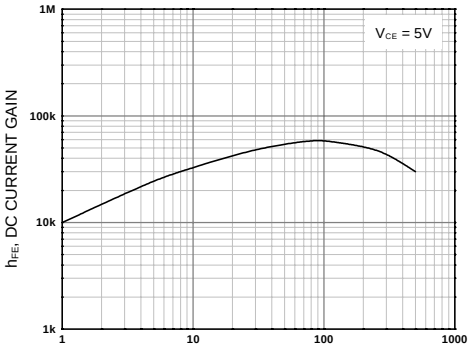


Figure 1. DC current Gain

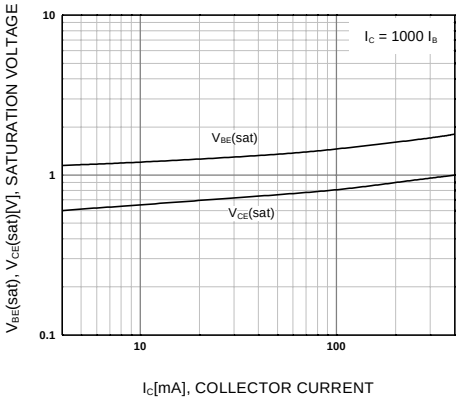


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

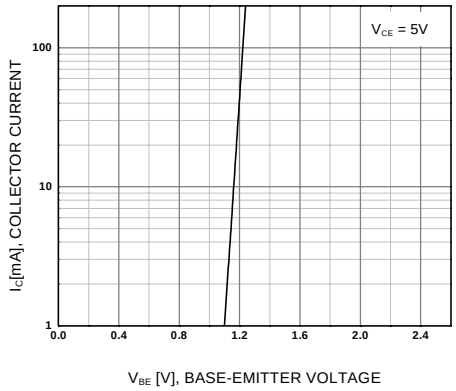


Figure 3. Base-Emitter On Voltage

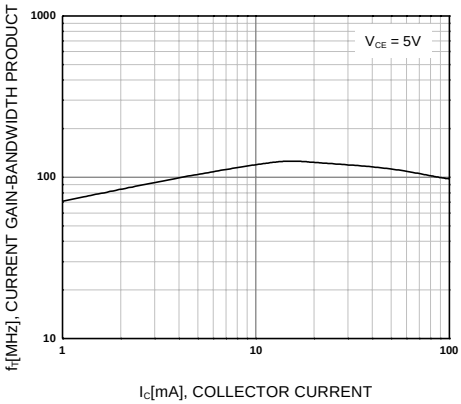
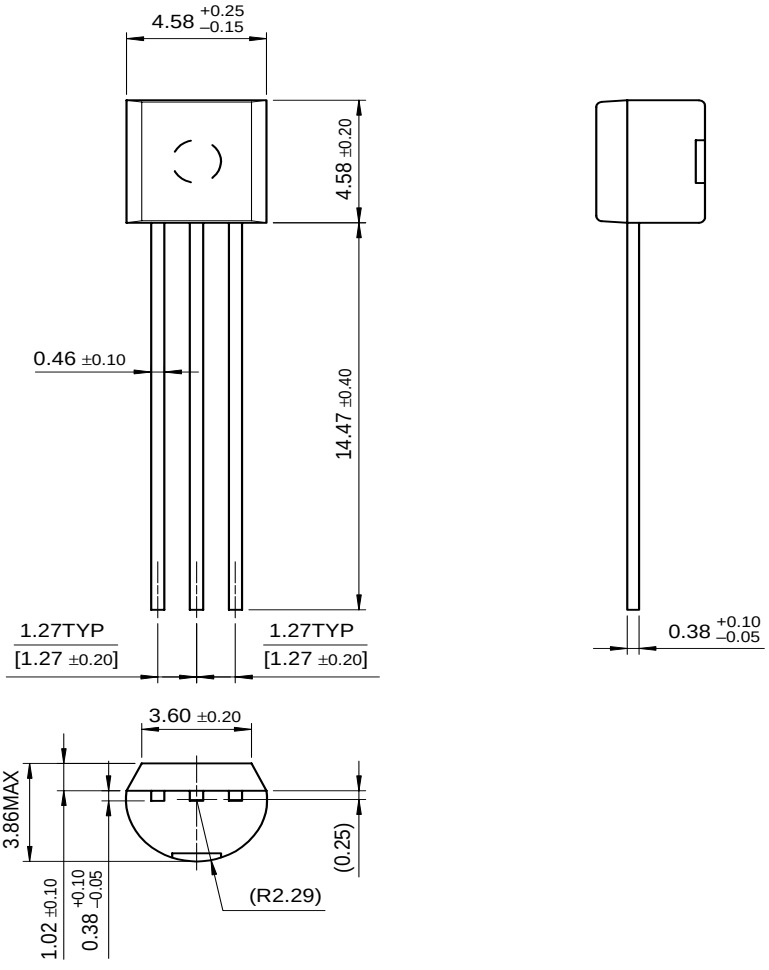


Figure 4. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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