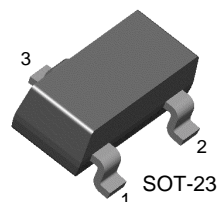


## KST13/14

### Darlington Amplifier Transistor



1. Base 2. Emitter 3. Collector

### 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	30	V
$V_{CES}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$I_C$	Collector Current	300	mA
$P_C$	Collector Power Dissipation	350	mW
$T_{STG}$	Storage Temperature	150	$^\circ\text{C}$

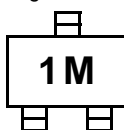
#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CES}$	Collector-Emitter Breakdown Voltage	$I_C=100\mu\text{A}$ , $V_{BE}=0$	30		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=30\text{V}$ , $I_E=0$		100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=10\text{V}$ , $I_C=0$		100	nA
$h_{FE}$	DC Current Gain				
	: KST13	$V_{CE}=5\text{V}$ , $I_C=10\text{mA}$	5K		
	: KST14	$V_{CE}=5\text{V}$ , $I_C=10\text{mA}$	10K		
	: KST13	$V_{CE}=5\text{V}$ , $I_C=100\text{mA}$	10K		
	: KST14	$V_{CE}=5\text{V}$ , $I_C=100\text{mA}$	20K		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}$ , $I_B=0.1\text{mA}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=5\text{V}$ , $I_C=100\text{mA}$		2.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5\text{V}$ , $I_C=10\text{mA}$ $f=100\text{MHz}$	125		MHz

### Marking Code

Type	KST13	KST14
Mark	1M	1N

Marking



# Typical Characteristics

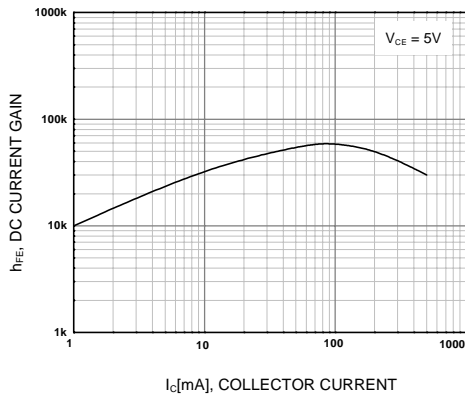


Figure 1. DC Current Gain

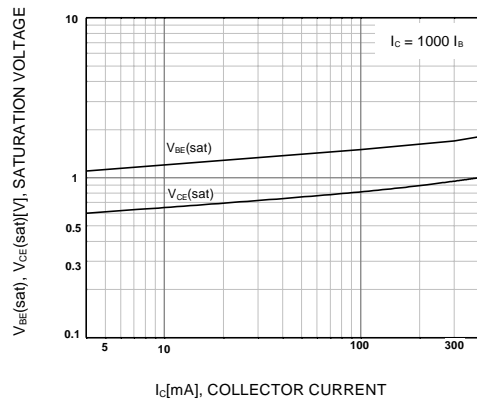


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

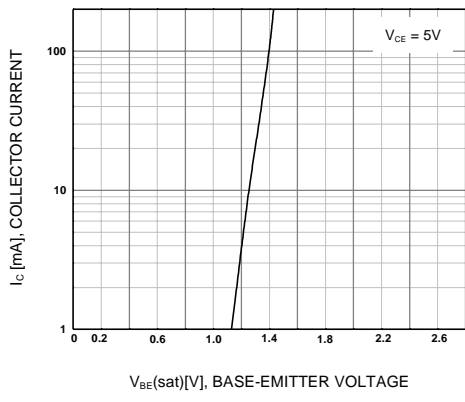


Figure 3. Base-Emitter On Voltage

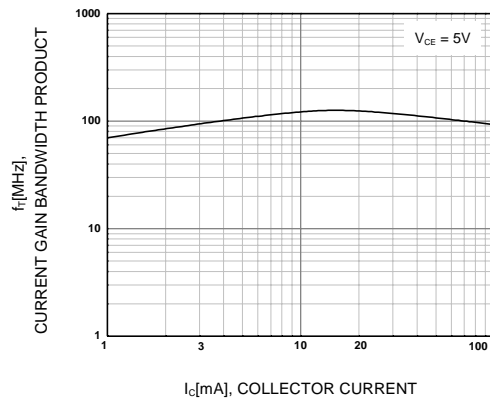
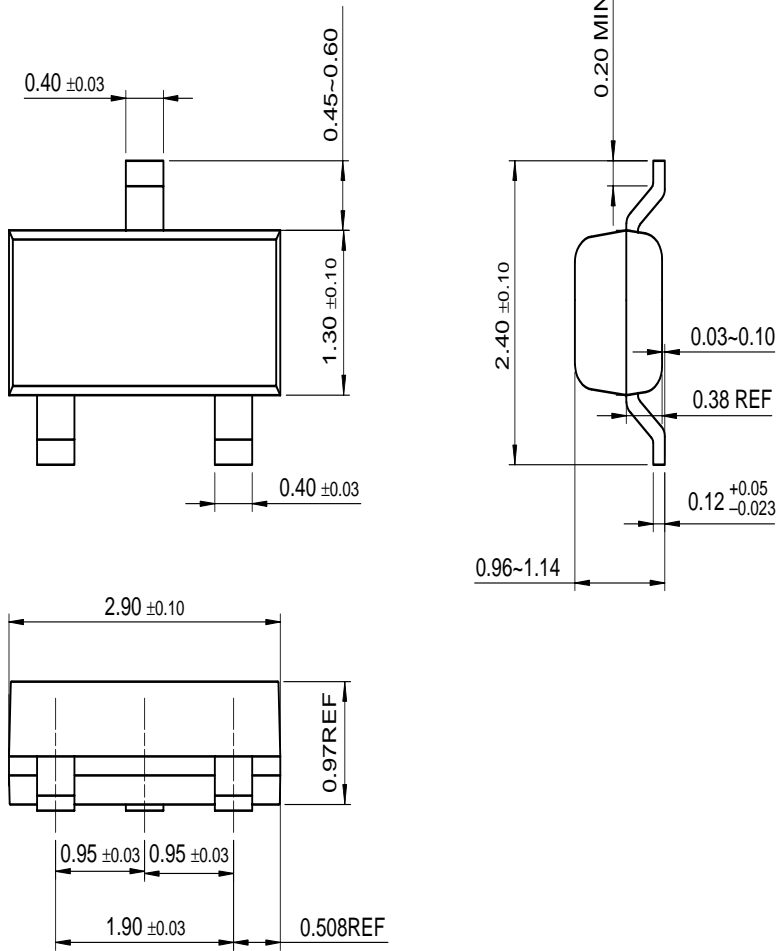


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## SOT-23



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
CoolFET <sup>™</sup>	FAST <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
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