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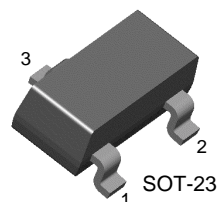
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KST13/14

Darlington Amplifier Transistor



SOT-23
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	$^\circ\text{C}$

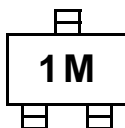
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

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

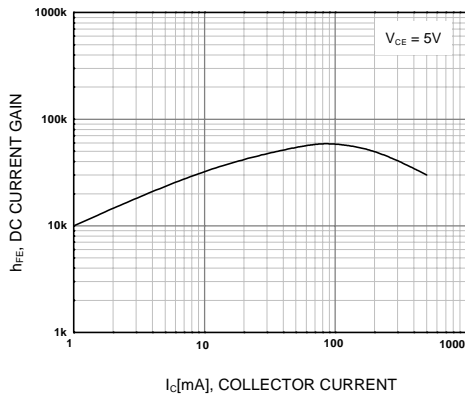


Figure 1. DC Current Gain

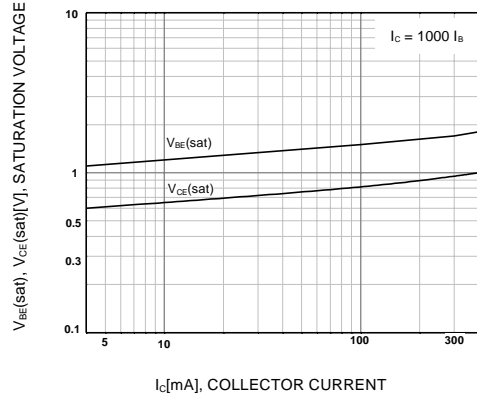


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

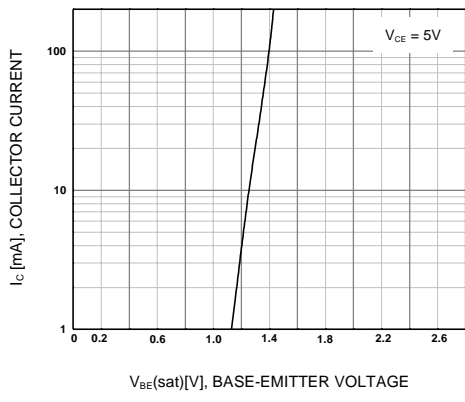


Figure 3. Base-Emitter On Voltage

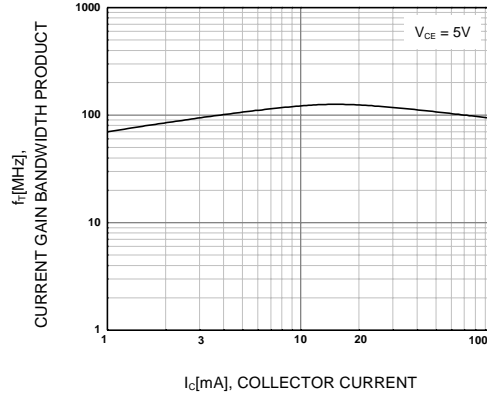


Figure 4. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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