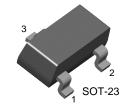


## KST13/14

### **Darlington Amplifier Transistor**



1. Base 2. Emitter 3. Collector

# **NPN Epitaxial Silicon Transistor**

### **Absolute Maximum Ratings** $T_a$ =25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	30	V
V <sub>CES</sub>	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	10	V
I <sub>C</sub>	Collector Current	300	mA
Collector Power Dissipation		350	mW
T <sub>STG</sub>	Storage Temperature	150	°C

### **Electrical Characteristics** $T_a$ =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV <sub>CES</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =100μA, V <sub>BE</sub> =0	30		V
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CB}$ =30V, $I_E$ =0		100	nA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> =10V, I <sub>C</sub> =0		100	nA
h <sub>FE</sub>	DC Current Gain				
	: KST13	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	5K		
	: KST14		10K		
	: KST13	$V_{CF} = 5V, I_{C} = 100 \text{mA}$	10K		
	: KST14		20K		
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> =100mA, I <sub>B</sub> =0.1mA		1.5	V
V <sub>BE</sub> (on)	Base-Emitter On Voltage	V <sub>CE</sub> =5V, I <sub>C</sub> =100mA		2.0	V
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA f=100MHz	125		MHz

### **Marking Code**

Туре	KST13	KST14	
Mark	1M	1N	

Marking



# **Typical Characteristics**

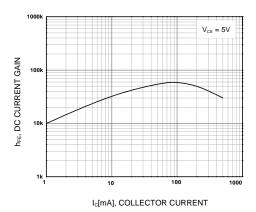


Figure 1. DC Current Gain

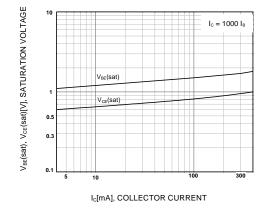


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

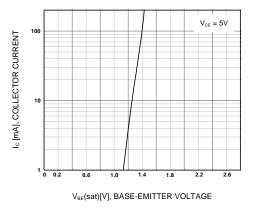


Figure 3. Base-Emitter On Voltage

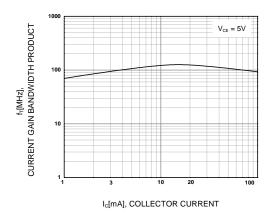
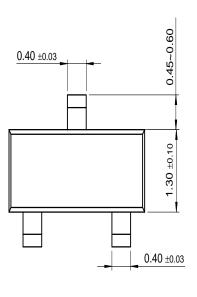
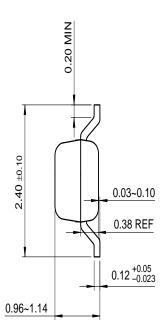


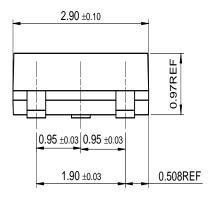
Figure 4. Current Gain Bandwidth Product

# **Package Dimensions**

## **SOT-23**







Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench <sup>®</sup>	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E <sup>2</sup> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	$I^2C^{TM}$	$OCX^{TM}$	RapidConfigure™	UHC™
Across the board.	. Around the world.™	OCXPro™	RapidConnect™	UltraFET <sup>®</sup>
The Power Franchise™		OPTOLOGIC <sup>®</sup>	SILENT SWITCHER®	$VCX^{TM}$
Programmable Ad	ctive Droop™	OPTOPLANAR™	SMART START™	

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