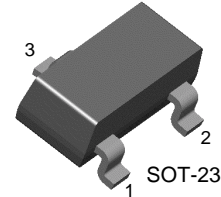


# KST4123

## General Purpose Transistor



1. Base 2. Emitter 3. Collector

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a=25^{\circ}\text{C}$ unless otherwise noted

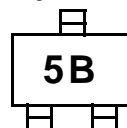
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	200	mA
$P_C$	Collector Power Dissipation	350	mW
$T_{STG}$	Storage Temperature	150	$^{\circ}\text{C}$
$R_{TH(j-a)}$	Thermal Resistance junction to Ambient	357	$^{\circ}\text{C/W}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=10\mu\text{A}$ , $I_E=0$	40		V
$BV_{CEO}$	* Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}$ , $I_E=0$	30		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}$ , $I_C=0$	5		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=20\text{V}$ , $I_E=0$		50	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=3\text{V}$ , $I_C=0$		50	nA
$h_{FE}$	* DC Current Gain	$V_{CE}=1\text{V}$ , $I_C=2\text{mA}$ $V_{CE}=1\text{V}$ , $I_C=50\text{mA}$	50 25	150	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C=50\text{mA}$ , $I_B=5\text{mA}$		0.3	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C=50\text{mA}$ , $I_B=5\text{mA}$		0.95	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=100\text{MHz}$	250		MHz
$C_{ib}$	Input Capacitance	$V_{BE}=0.5\text{V}$ , $I_C=0$ , $f=100\text{KHz}$		8	pF
$C_{ob}$	Output Capacitance	$V_{CB}=5\text{V}$ , $I_E=0$ , $f=100\text{KHz}$		4	pF
NF	Noise Figure	$V_{CE}=5\text{V}$ , $I_C=100\mu\text{A}$ , $R_S=1\text{K}\Omega$ Noise Bandwidth=10Hz to 15.7KHz		6	dB

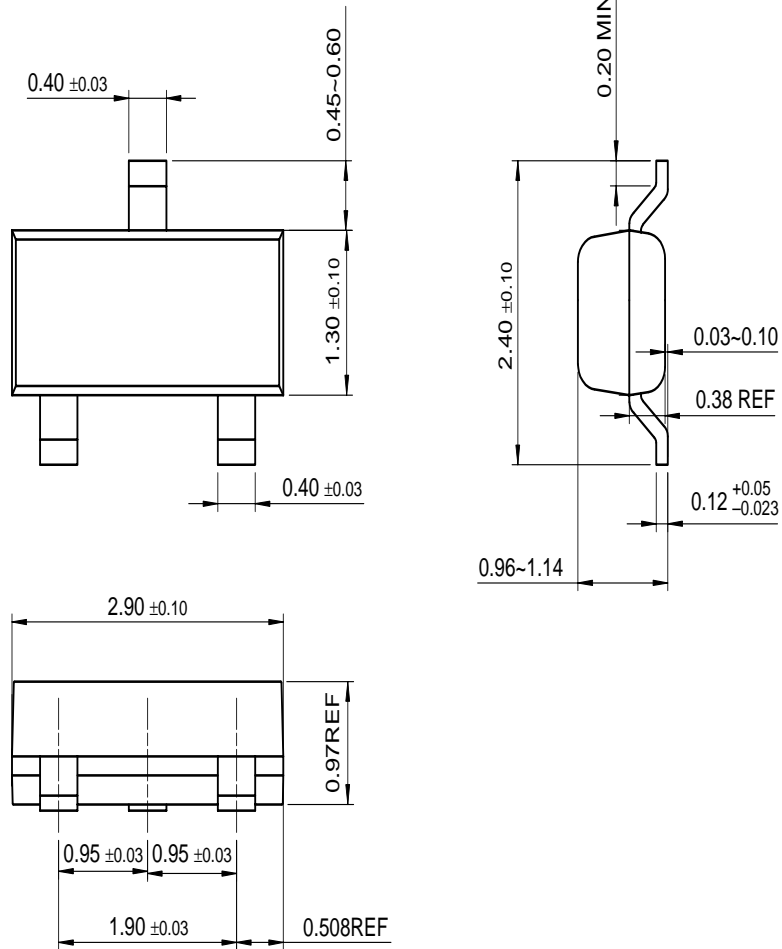
\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

### Marking



# Package Dimensions

## SOT-23



Dimensions in Millimeters

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