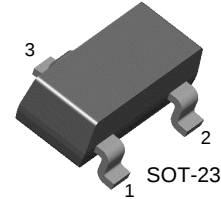


KST4123

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

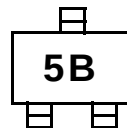
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	200	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	150	$^{\circ}\text{C}$
$R_{TH}(j-a)$	Thermal Resistance junction to 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	
$V_{CE}(\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C=50\text{mA}$, $I_B=5\text{mA}$		0.3	V
$V_{BE}(\text{sat})$	* 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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