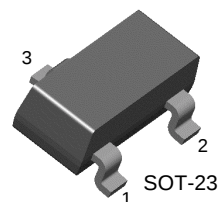


KST4401

KST4401

Switching Transistor



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

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

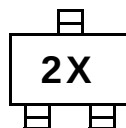
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Dissipation	350	mW
T_{STG}	Storage Temperature	150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}$, $I_E=0$	60		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	$I_C=1.0\text{mA}$, $I_B=0$	40		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=100\mu\text{A}$, $I_C=0$	6		V
I_{BEV}	Base Cut-off Current	$V_{CE}=35\text{V}$, $V_{EB}=0.4\text{V}$		100	nA
I_{CEX}	Collector Cut-off Current	$V_{CE}=35\text{V}$, $V_{EB}=0.4\text{V}$		100	nA
h_{FE}	* DC Current Gain	$V_{CE}=1\text{V}$, $I_C=0.1\text{mA}$ $V_{CE}=1\text{V}$, $I_C=1\text{mA}$ $V_{CE}=1\text{V}$, $I_C=10\text{mA}$ $V_{CE}=1\text{V}$, $I_C=150\text{mA}$ $V_{CE}=2\text{V}$, $I_C=500\text{mA}$	20 40 80 100 40	300	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C=150\text{mA}$, $I_B=15\text{mA}$ $I_C=500\text{mA}$, $I_B=50\text{mA}$		0.4 0.75	V V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C=150\text{mA}$, $I_B=15\text{mA}$ $I_C=500\text{mA}$, $I_B=50\text{mA}$	0.75	0.95 1.2	V V
f_T	Current Gain Bandwidth Product	$I_C=20\text{mA}$, $V_{CE}=10\text{V}$ $f=100\text{MHz}$	250		MHz
C_{ob}	Output Capacitance	$V_{CB}=5\text{V}$, $I_E=0$, $f=100\text{KHz}$		6.5	pF
t_{ON}	Turn On Time	$V_{CC}=30\text{V}$, $V_{BE}=2\text{V}$ $I_C=150\text{mA}$, $I_{B1}=15\text{mA}$		35	ns
t_{OFF}	Turn Off Time	$V_{CC}=30\text{V}$, $I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$		255	ns

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

Marking



Typical Characteristics

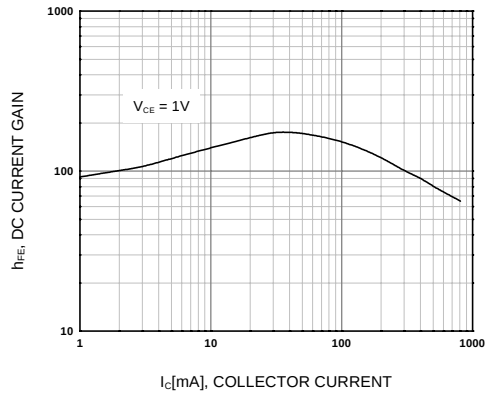


Figure 1. DC current Gain

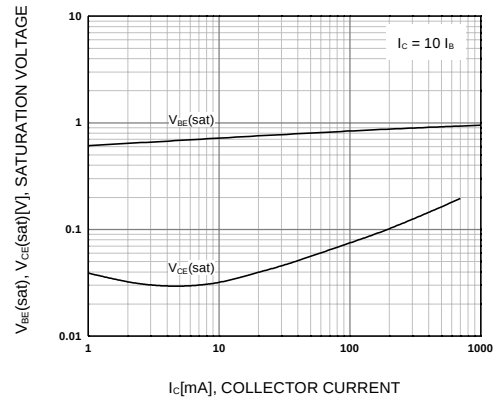


Figure 2. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

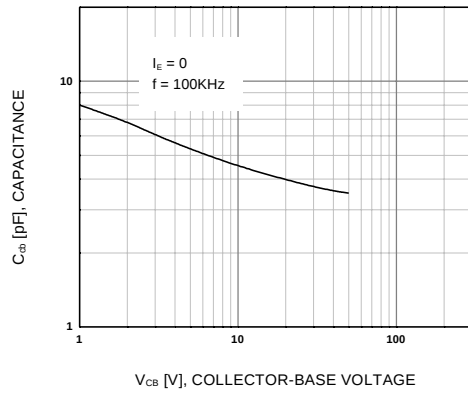


Figure 3. Collector-Base Capacitance

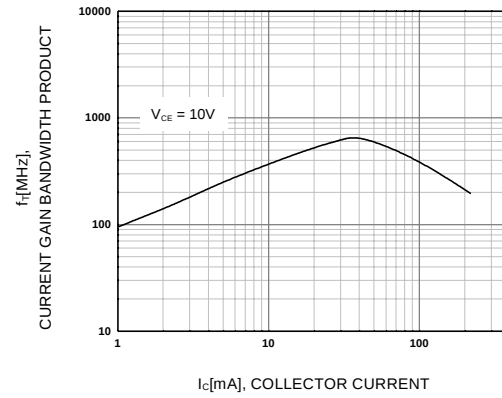
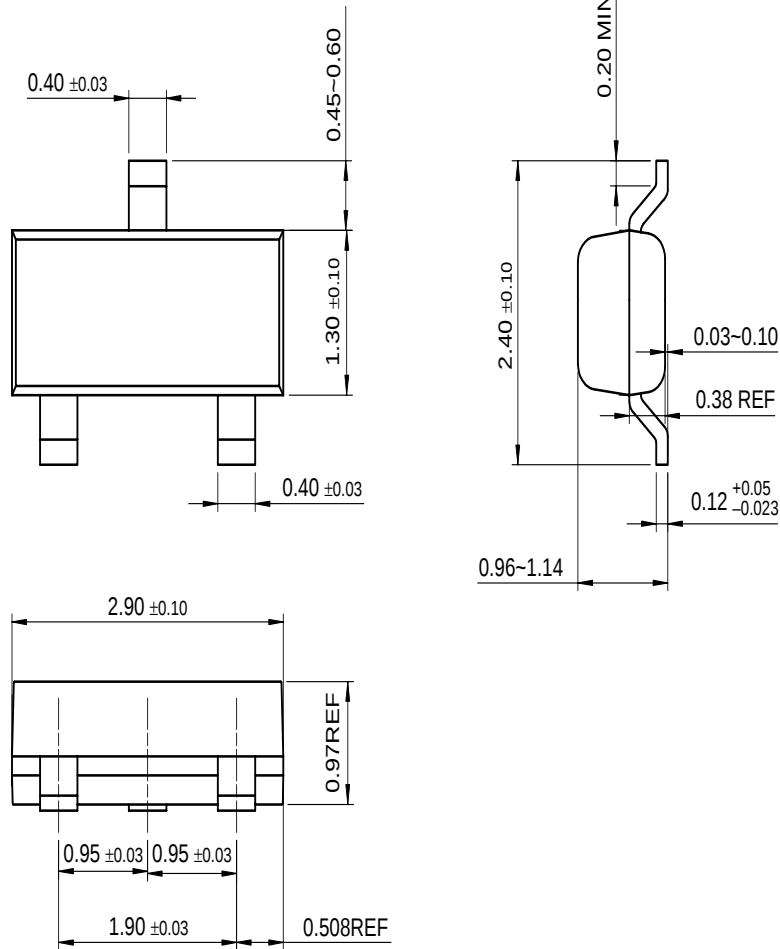


Figure 4. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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