

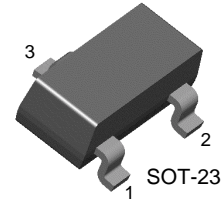


# THE DATASHEET OF KST24MTF



# KST24

## VHF Mixer 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	4	V
$I_C$	Collector Current	100	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	$^\circ\text{C/W}$

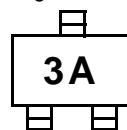
• Refer to KSP24 for graphs

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_E=0$	40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	4			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=15\text{V}, I_E=0$			50	nA
$h_{FE}$	DC Current Gain	$V_{CE}=10\text{V}, I_C=8\text{mA}$	30			
$f_T$	* Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=8\text{mA}$ $f=100\text{MHz}$	400	620		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.25	0.36	pF
$G_G$	Conversion Gain (213MHz to 45MHz) (60MHz to 45MHz)	$I_C=8\text{mA}, V_{CC}=20\text{V}$ Oscillator Injection=150mV	19 24	24 29		dB dB

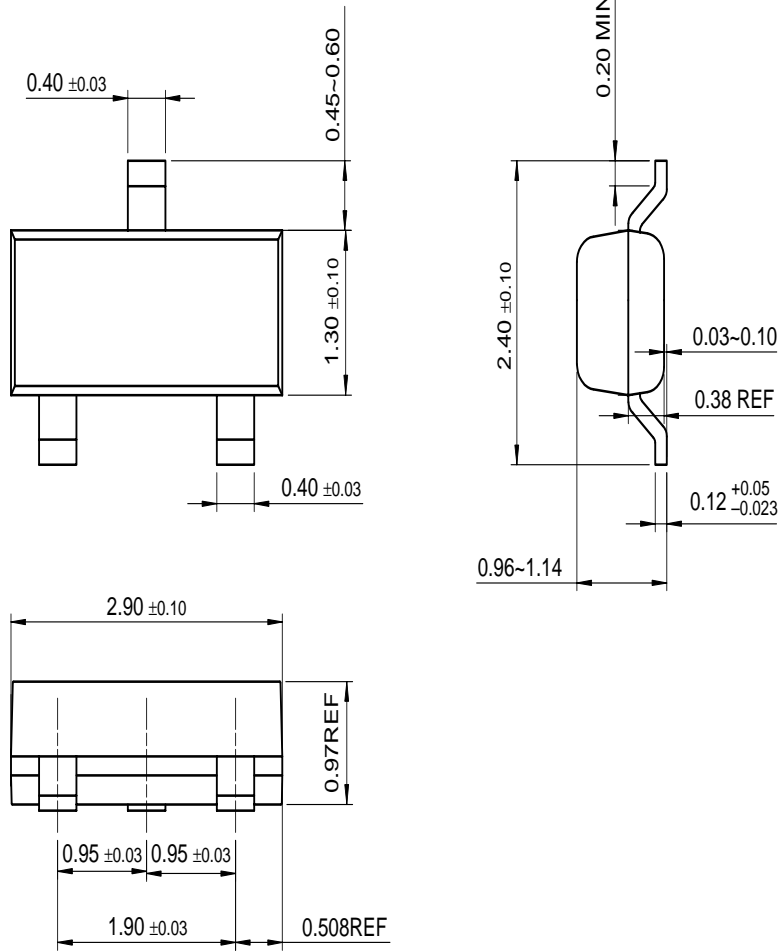
\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycles  $\leq 2\%$

Marking



# Package Dimensions

## SOT-23



Dimensions in Millimeters

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