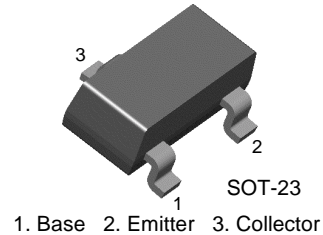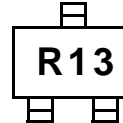**FAIRCHILD**

SEMICONDUCTOR®

KSR1113

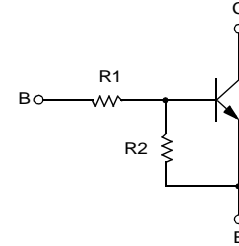## Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R_1 =2.2KΩ, R_2=47KΩ)
- Complement to KSR2113

SOT-23

1. Base   2. Emitter   3. Collector

Marking

R13

Equivalent Circuit

NPN Epitaxial Silicon Transistor

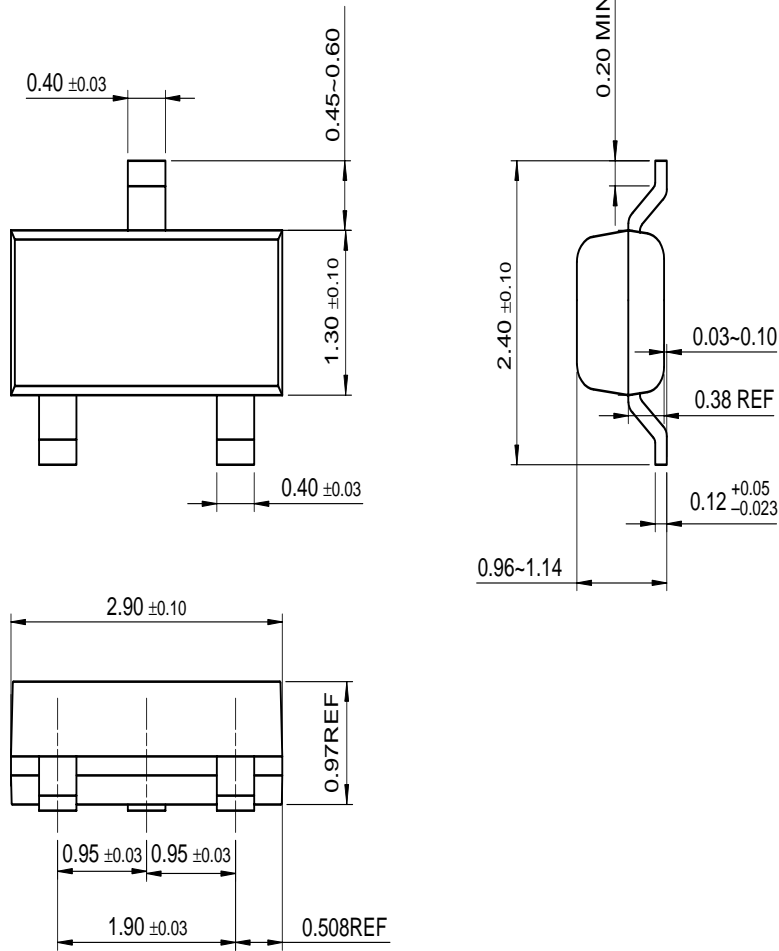## Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	300	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=10μA, I_E=0	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=100μA, I_B=0	50			V
I_{CBO}	Collector Cut-off Current	V_{CB}=40V, I_E=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=5V, I_C=5mA	68			
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=0.5mA			0.3	V
f_T	Current Gain Bandwidth Product	V_{CE}=10V, I_C=5mA		250		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0 f=1.0MHz		3.7		pF
V_I(off)	Input Off Voltage	V_{CE}=5V, I_C=100μA	0.5			V
V_I(on)	Input On Voltage	V_{CE}=0.2V, I_C=5mA			1.1	V
R_1	Input Resistor		1.5	2.2	2.9	KΩ
R_1/R_2	Resistor Ratio		0.042	0.047	0.052	

Package Demensions

SOT-23

0.40 ±0.03

0.45~0.60

1.30 ±0.10

0.40 ±0.03

0.20 MIN

2.40 ±0.10

0.03~0.10

0.38 REF

0.12 $^{+0.05}_{-0.023}$

0.96~1.14

2.90 ±0.10

0.97REF

0.95 ±0.03

0.95 ±0.03

1.90 ±0.03

0.508REF

Dimensions in Millimeters

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Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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KSR1113
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Features

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- Built in bias Resistor (R_1=2.2KΩ, R_2=47KΩ)
- Complement to KSR2113

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
KSR1113MTF	Full Production	$0.053	[SOT-23](#)	3	TAPE REEL

* 1,000 piece Budgetary Pricing

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