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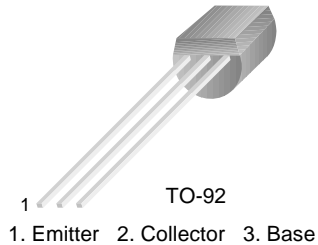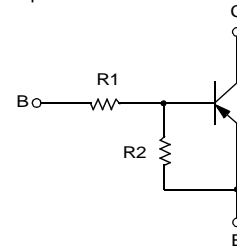
KSR2002

Switching Application (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R_1=10KΩ, R_2=10KΩ)
- Complement to KSR1002

TO-92

1. Emitter 2. Collector 3. Base

Equivalent Circuit

PNP 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	30			
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}= -5mA, I_C= -10V		200		MHz
C_{ob}	Output Capacitance	V_{CB}= -10V, I_E=0 f=1.0MHz		5.5		pF
V_I(off)	Input Off Voltage	V_{CE}= -5V, I_C= -100μA	-0.5			V
V_I(on)	Input On Voltage	V_{CE}= -0.3V, I_C= -10mA			-3	V
R_1	Input Resistor		7	10	13	KΩ
R_1/R_2	Resistor Ratio		0.9	1	1.1	

Typical Characteristics

Figure 1. DC current Gain

$V_{CE} = -5V$
$R_1 = 10\ K$
$R_2 = 10\ K$

h_{FE}, DC CURRENT GAIN

I_C[mA], COLLECTOR CURRENT
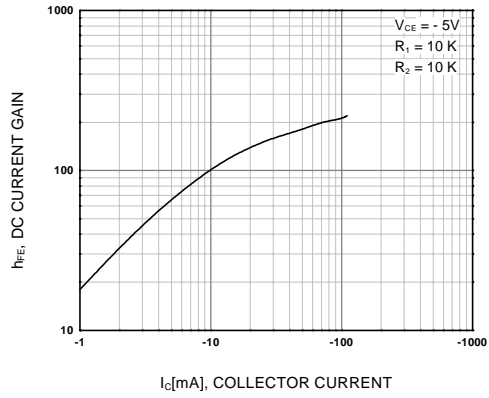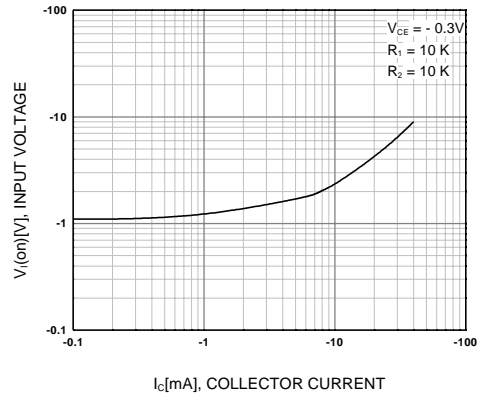
Figure 2. Input On Voltage

$V_{CE} = -0.3V$
$R_1 = 10\ K$
$R_2 = 10\ K$

V_I(on)[V], INPUT VOLTAGE

I_C[mA], COLLECTOR CURRENT
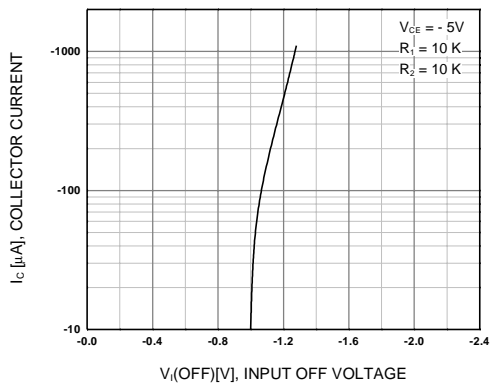
Figure 3. Input Off Voltage

$V_{CE} = -5V$
$R_1 = 10\ K$
$R_2 = 10\ K$

I_C [µA], COLLECTOR CURRENT

V_I(OFF)[V], INPUT OFF VOLTAGE
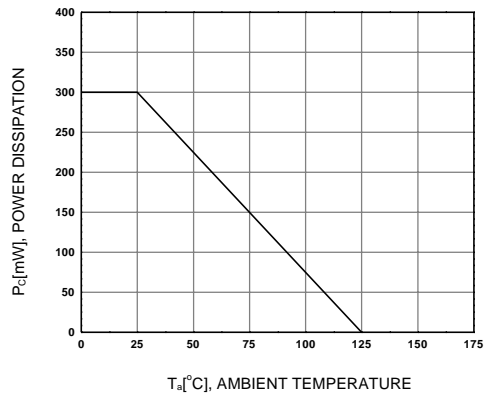
Figure 4. Power Derating

P_C[mW], POWER DISSIPATION

T_a[°C], AMBIENT TEMPERATURE

Package Dimensions

TO-92

4.58 $^{+0.25}_{-0.15}$

4.58 ±0.20

0.46 ±0.10

14.47 ±0.40

1.27TYP
[1.27 ±0.20]

1.27TYP
[1.27 ±0.20]

0.38 $^{+0.10}_{-0.05}$

3.60 ±0.20

3.86MAX

1.02 ±0.10

0.38 $^{+0.10}_{-0.05}$

(0.25)

(R2.29)

Dimensions in Millimeters

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KSR2002
PNP Epitaxial Silicon Transistor

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Features

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- Built in bias Resistor (R_1=10KΩ, R_2=10KΩ)
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Product status/pricing/packaging   [BUY]

Product	Product status	Pb-free Status	Package type	Leads	Packing method
KSR2002TA_NL	Lifetime Buy	🌿	TO-92	3	AMMO

🌿 Indicates product with Pb-free second-level interconnect. For more information click here.

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Qualification Support

Click on a product for detailed qualification data

Product
KSR2002TA_NL

BUY

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