

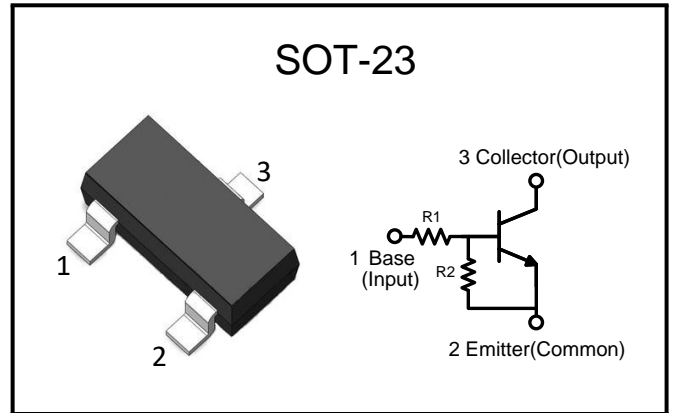
# KRC103S

NPN Digital Transistor

## Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

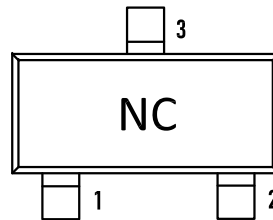
## Package



## Resistor Values/Marking Code

Type	R1 (KΩ)	R2 (KΩ)	Marking
KRC103S	22	22	NC

## Marking



## Ordering information

Order code	Package	Marking	Base qty	Delivery mode
KRC103S	SOT-23	NC	3K	Tape and reel

## Absolute Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>O</sub>	Output Voltage	50	V
V <sub>I</sub>	Input Voltage	40,-10	V
I <sub>D</sub>	Output Current	100	mA
P <sub>tot</sub>	Total Power Dissipation	200	mW
T <sub>J</sub>	Operating Junction	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to + 150	°C

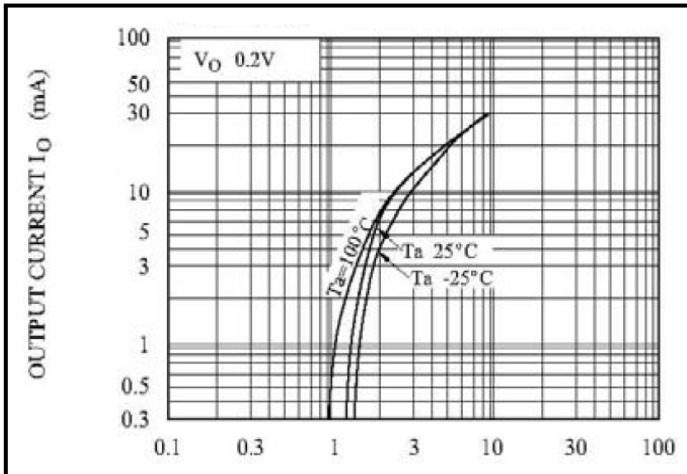


**Electrical Characteristics @ $T_A=25^\circ\text{C}$  unless otherwise noted**

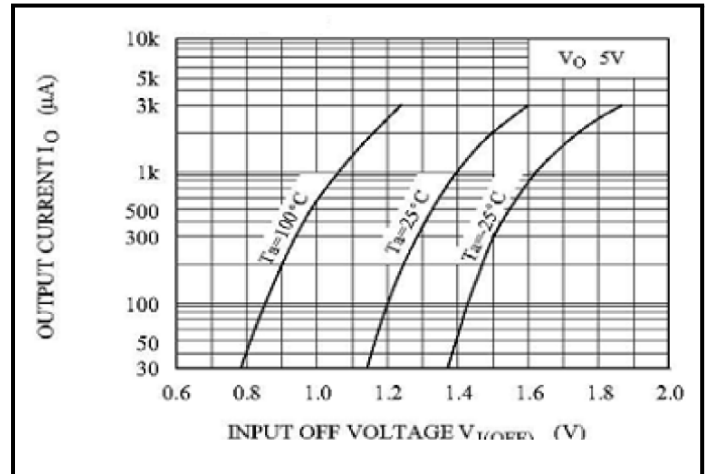
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$G_I$	DC Current Gain	$V_O = 5V, I_O = 10\text{mA}$	70	–	–	V
$I_{O(OFF)}$	Output Cutoff Current	$V_O = 50V$	–	–	0.5	$\mu\text{A}$
$I_I$	Input Current	$V_I = 5V$	–	–	0.36	mA
$V_{O(ON)}$	Output Voltage	$I_O = 10\text{mA}, I_I = 0.5\text{mA}$	–	–	0.3	V
$V_{I(ON)}$	Input Voltage (ON)	$V_O = 0.2V, I_O = 5\text{mA}$	–	–	3	V
$V_{I(OFF)}$	Input Voltage (OFF)	$V_O = 5V, I_O = 0.1\text{mA}$	1	–	–	V
$f_T$	Transition Frequency	$V_O = 10V, I_O = 5\text{mA}$	–	200	–	MHZ

**Typical Performance Characteristics( $T_J = 25^\circ\text{C}$ , unless otherwise noted)**

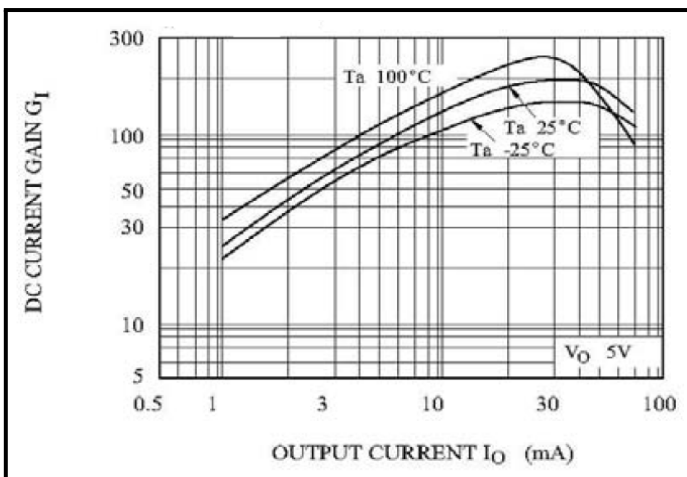
**Figure 1 :  $I_O$  vs.  $V_{I(ON)}$**



**Figure 2 :  $I_O$  vs.  $V_{I(OFF)}$**



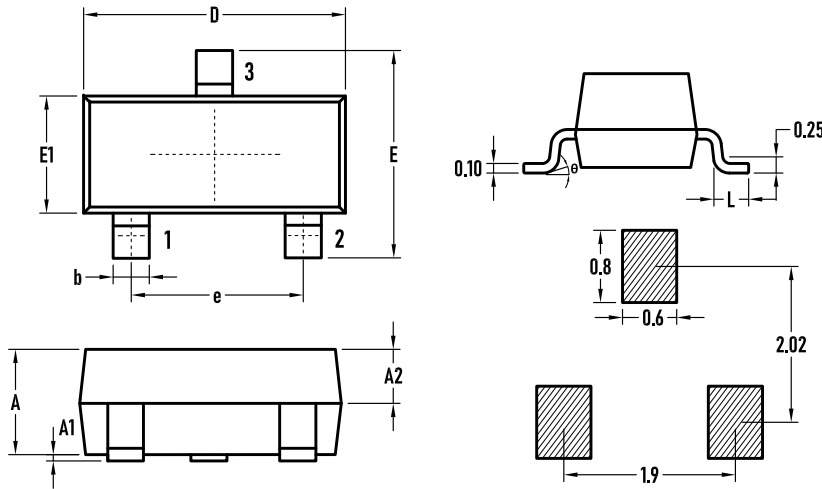
**Figure 3 :  $G_I$  vs.  $I_O$**



**KRC103S**

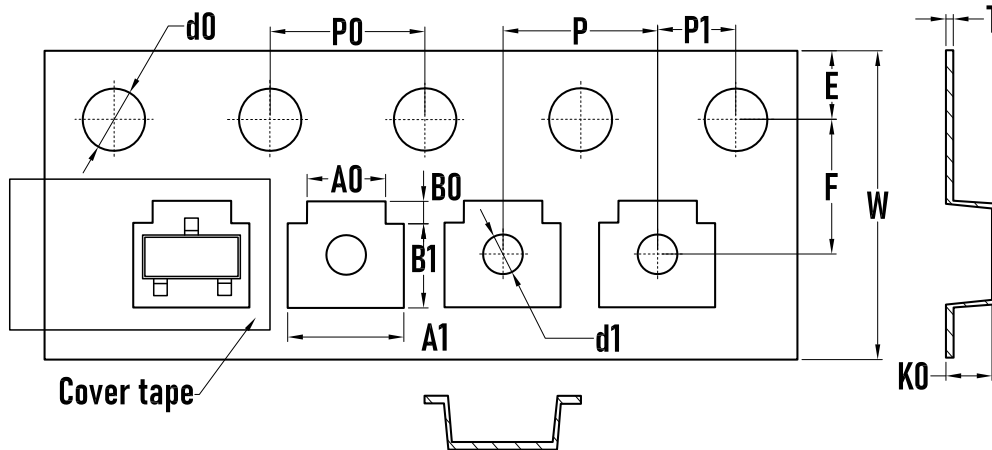
**NPN Digital Transistor**

**Outline Drawing - SOT-23**



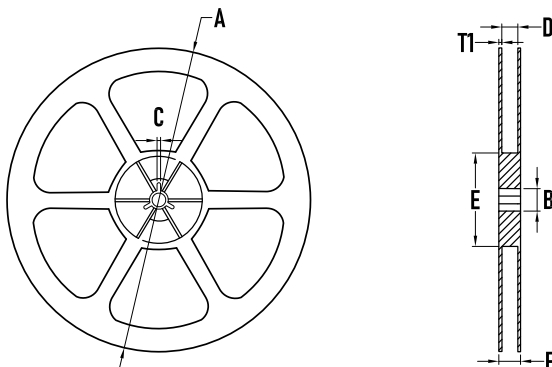
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.95	1.00	–
A1	0.02	0.06	0.10
A2	–	0.60	–
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E	2.35	2.40	2.45
E1	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
$\theta$	0	–	6°

**Packaging Tape - SOT-23**



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

**Packaging Reel**



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

Revision: 2022-Jan-1-A

