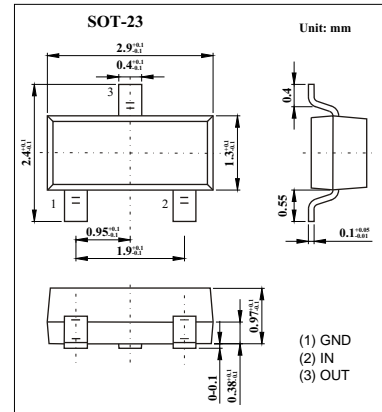
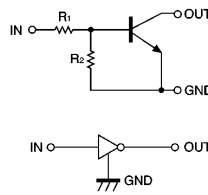


## NPN Digital transistors

### KTC143ZKA

#### Features

- NPN digital transistor (Built-in resistor types)
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- Only the on/off conditions need to be set for operation, making device design easy.



#### Absolute Maximum Ratings Ta = 25

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	-5~+30	V
Output current	I <sub>o</sub>	100	mA
	I <sub>C(Max.)</sub>	100	
Power dissipation	P <sub>D</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	
Storage temperature	T <sub>stg</sub>	-55~+150	

#### Electrical Characteristics Ta = 25

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Input voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =5V, I <sub>o</sub> =100 μA			0.5	V
	V <sub>I(on)</sub>	V <sub>o</sub> =0.3V, I <sub>o</sub> =5mA	1.3			V
Output voltage	V <sub>O(on)</sub>	I <sub>o</sub> /I <sub>i</sub> =5mA/0.25mA		0.1	0.3	V
Input current	I <sub>i</sub>	V <sub>I</sub> =5V			1.8	mA
Output current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V, V <sub>I</sub> =0V			0.5	μA
DC current gain	G <sub>I</sub>	V <sub>o</sub> =5V, I <sub>o</sub> =10mA	80			
Input resistance	R <sub>1</sub>	-	3.29	4.7	6.11	k
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	-	8	10	12	k
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz		250		MHz

# KTC143ZKA

## Typical Characteristics

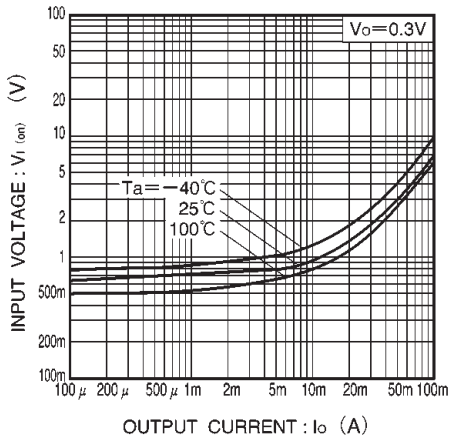


Fig.1 Input voltage vs. output current (ON characteristics)

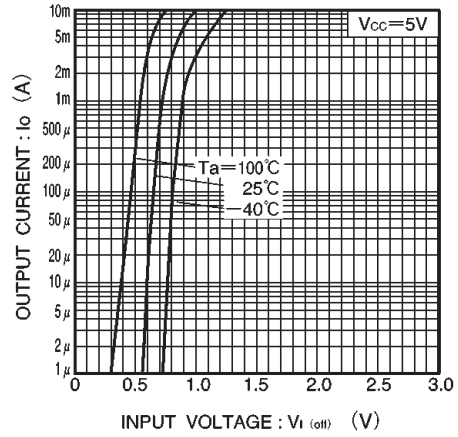


Fig.2 Output current vs. input voltage (OFF characteristics)

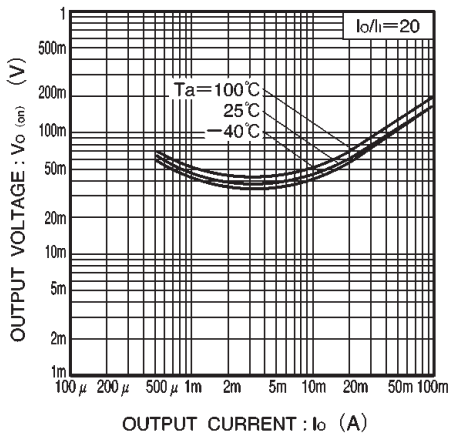


Fig.4 Output voltage vs. output current

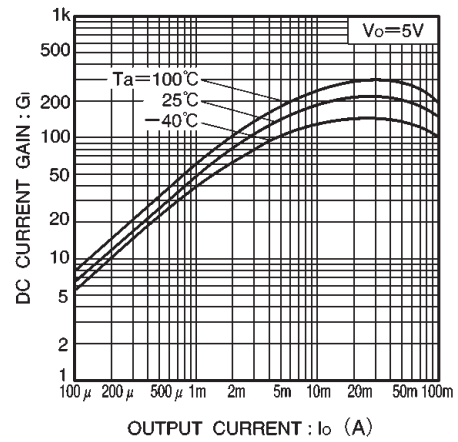


Fig.3 DC current gain vs. output current