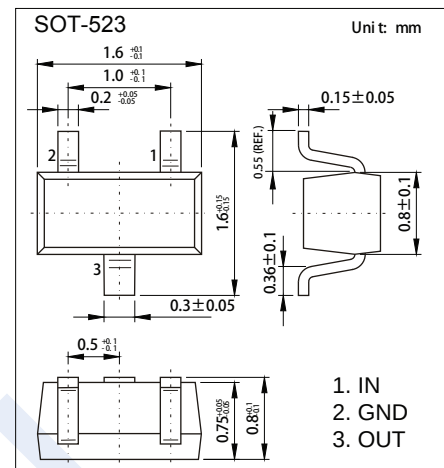
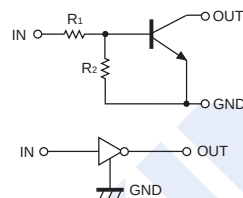


Digital Transistors

DTC143EE (KTC143EE)

■ Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easy.



■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	50	V
Input voltage	V _{IN}	-10 to +30	
Output current	I _O	100	mA
	I _{C(Max.)}	100	
Power dissipation	P _d	150	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input voltage	V _{I(off)}	V _{CC} =5V, I _O =100μA			0.5	V
	V _{I(on)}	V _O =0.3V, I _O =20mA	3			
Output voltage	V _{O(on)}	I _O /I _I =10mA/0.5mA			0.3	
Input current	I _I	V _I =5V			1.8	mA
Output current	I _{O(off)}	V _{CC} =50V, V _I =0V			0.5	μA
DC current gain	G _I	V _O =5V, I _O =10mA	30			
Input resistance	R _I		3.29	4.7	6.11	kΩ
Resistance ratio	R ₂ /R ₁		0.8	1	1.2	
Transition frequency	f _T	V _{CE} =10V, I _E =-5mA, f=100MHz*		250		MHz

* Transition frequency of the device

■ Marking: 23

Digital Transistors

DTC143EE (KTC143EE)

■ Typical Characteristics

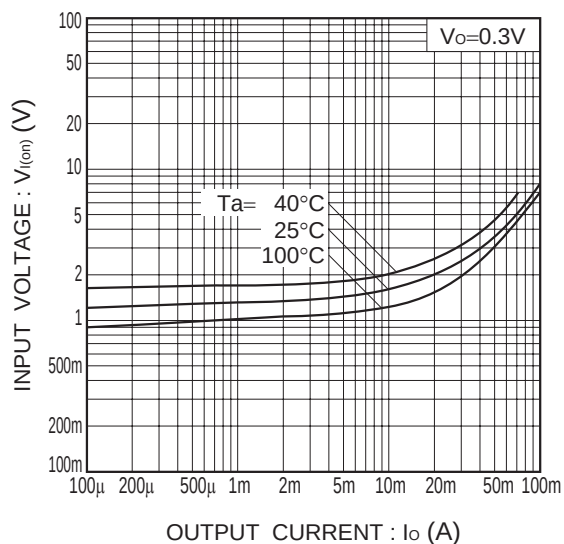


Fig.1 Input voltage vs. output current (ON characteristics)

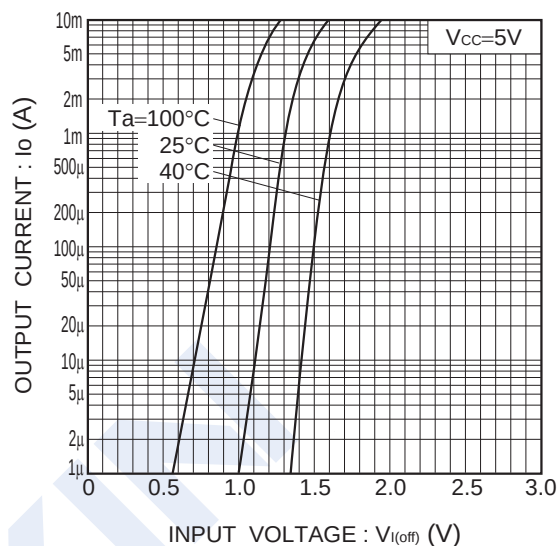


Fig.2 Output current vs. input voltage (OFF characteristics)

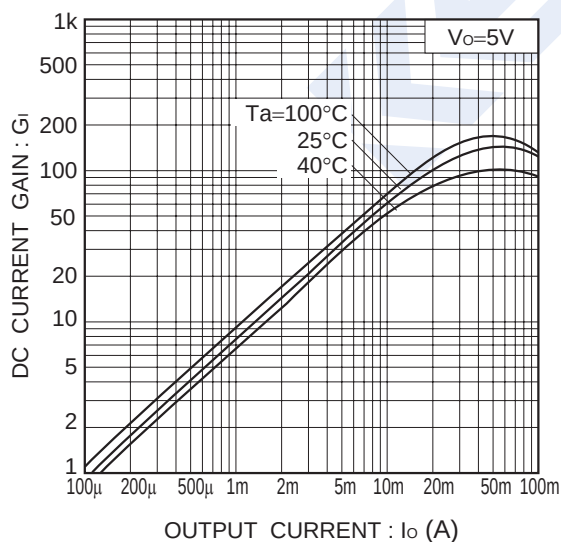


Fig.3 DC current gain vs. output current

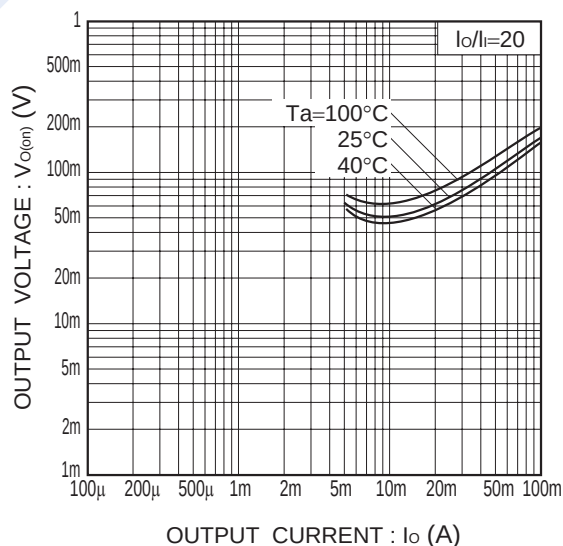


Fig.4 Output voltage vs. output current