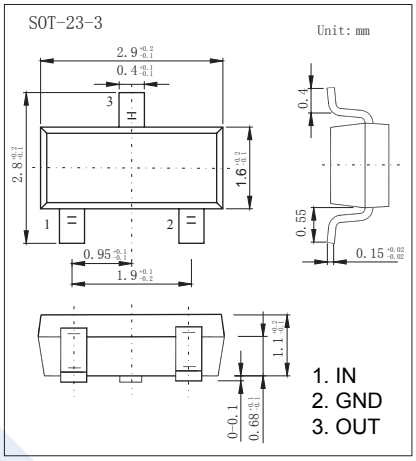
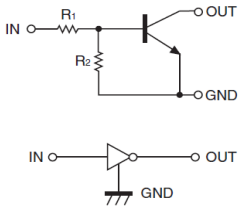
Digital Transistors

DTC144EKA (KDTC144EKA)



■ 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 positive 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℃

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-10~40	
Output Current	I_O	30	mA
Peak Collector Current	I_{CM}	100	
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	Vcc= 5 V , I_O=100 uA	0.5			V
	$V_{I(on)}$	V_O= 0.3 V , I_O=2 mA			3	
Output voltage	$V_{O(on)}$	I_O= 10 mA, I_I=0.5 mA			0.3	
Input current	I_I	V_I= 5 V			0.18	mA
Output current	$I_{O(off)}$	Vcc= -50V , V_I =0			0.5	uA
DC current gain	G_I	V_O=5V,I_O=5mA	68			
Input resistance	R_1		32.9	47	61.1	KΩ
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	V_O= 10V, I_O= 5mA,f=100MHz		250		MHz

■ Marking

Marking	26

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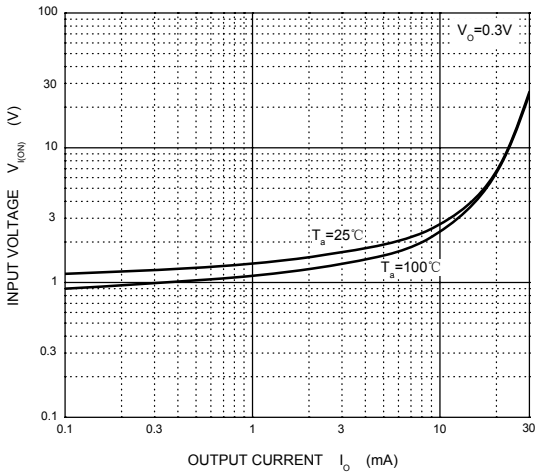
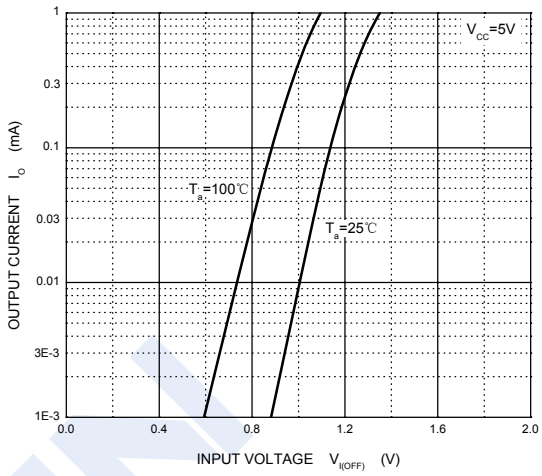
■ Typical Characterisitics

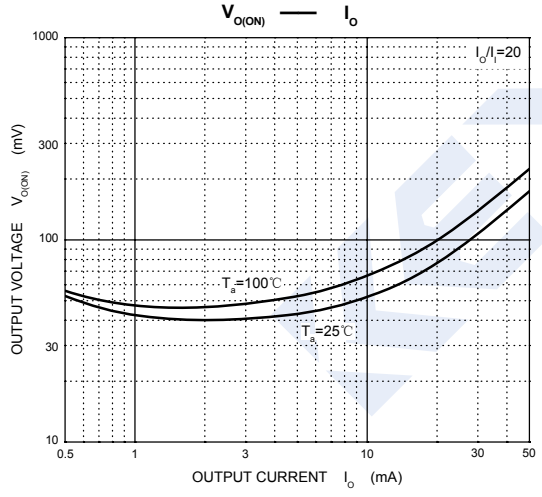
ON Characteristics



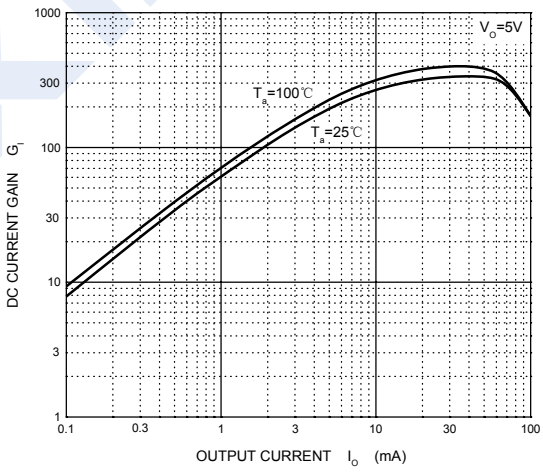
OFF Characteristics



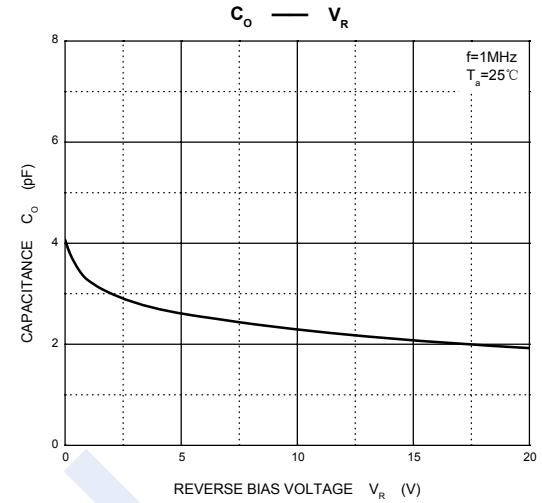
$V_{O(ON)}$ — I_O



G_I — I_O



C_O — V_R



P_D — T_a