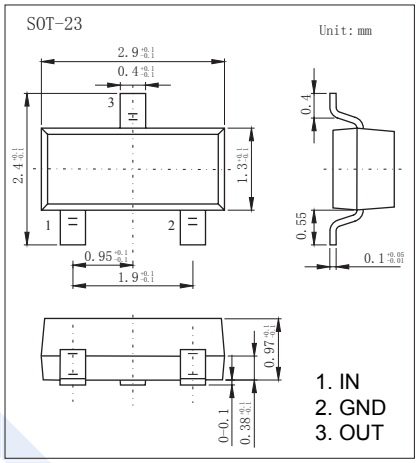
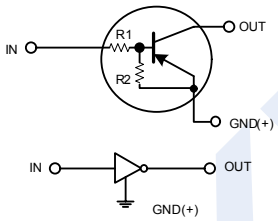
Digital Transistors

DTB114E (KDTB114E)



■ 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}	-40~10	
Output Current	I_O	-500	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	125	℃
Storage Temperature range	T_{stg}	-55 to 125	

■ 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
	$V_{I(on)}$	Vo= -0.3 V , I_O=-20 mA	-3			
Output voltage	$V_{O(on)}$	I_O= -50 mA， I_I=-2.5 mA			-0.3	
Input current	I_I	V_I= -5 V			-0.88	mA
Output current	$I_{o(off)}$	Vcc= -50 V , V_I =0			-0.5	uA
DC current gain	G_I	V_O=-5V,I_O=-50mA	56			
Input resistance	R_1		7	10	13	KΩ
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	V_O= -10V, I_E= 5mA,f=100MHz		200		MHz

■ Marking

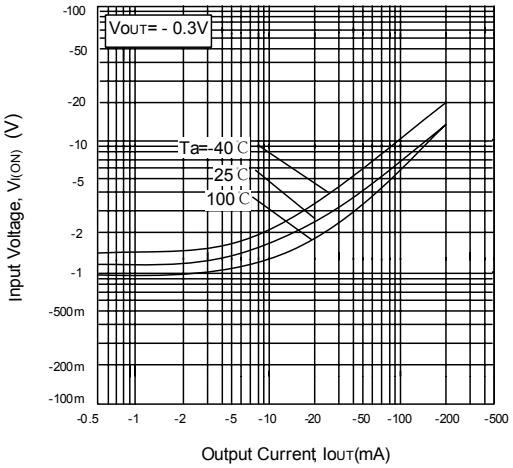
Marking	F14

Digital Transistors

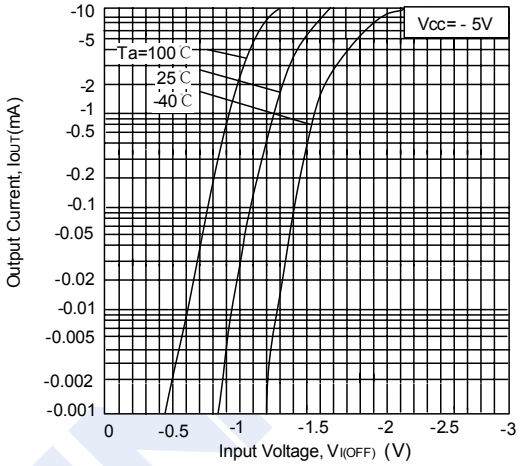
DTB114E (KDTB114E)

■ Typical Characterisitics

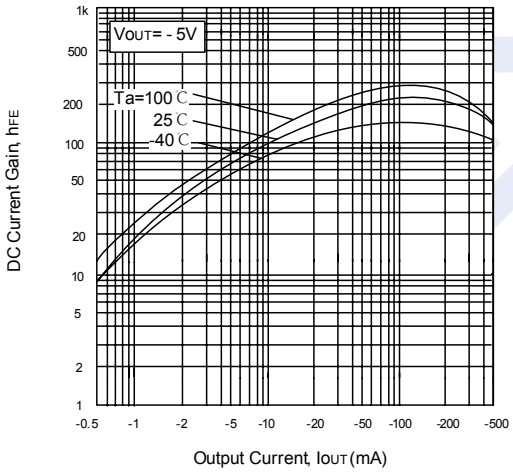
Input Voltage vs. Output Current
(ON Characterristics)



Output Current vs. Input Voltage
(OFF Characterristics)



DC Current Gain vs. Output Current



Output Voltage vs. Output Current