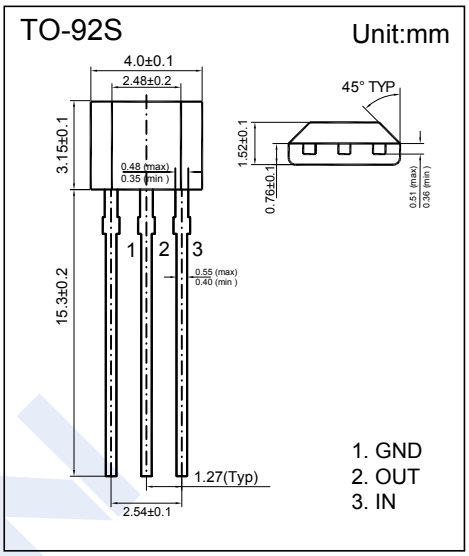
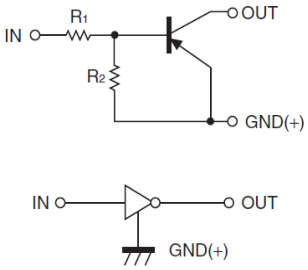
Digital Transistors

DTA114ESA (KDTA114ESA)



■ 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	-50	mA
Peak Collector Current	I_{CM}	-100	
Power Dissipation	P_D	300	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	$V_{I(off)}$	V_{CC}= -5 V , I_O=-100uA	-0.5			V
	$V_{I(on)}$	V_O= -0.3 V , I_O=-10 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			-0.88	mA
Output current	$I_{O(off)}$	V_{CC}= -50 V , V_I =0			-0.5	uA
DC current gain	G_I	V_O=-5V,I_O=-5mA	30			
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_O= -5mA,f=100MHz		250		MHz

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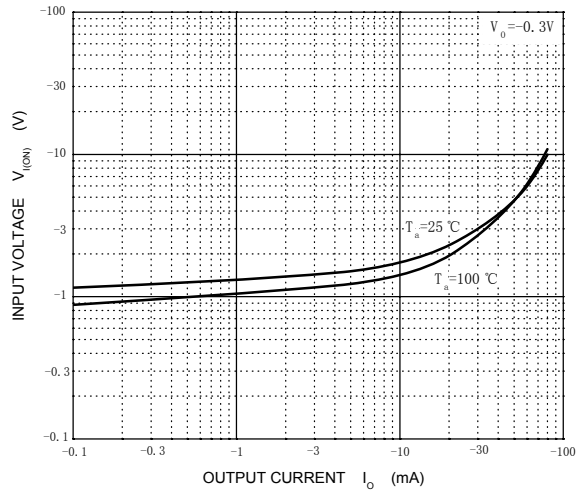
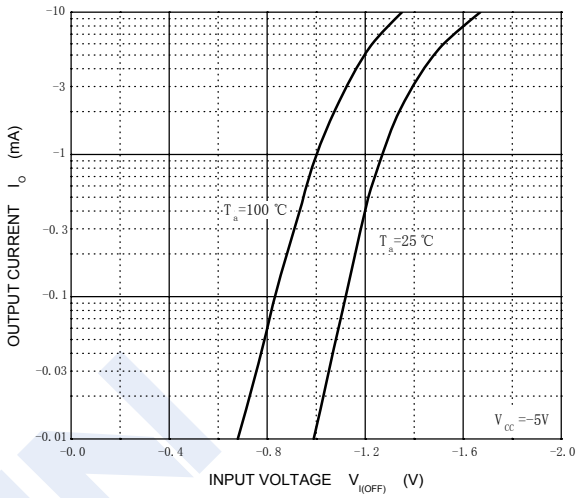
■ Typical Characterisitics

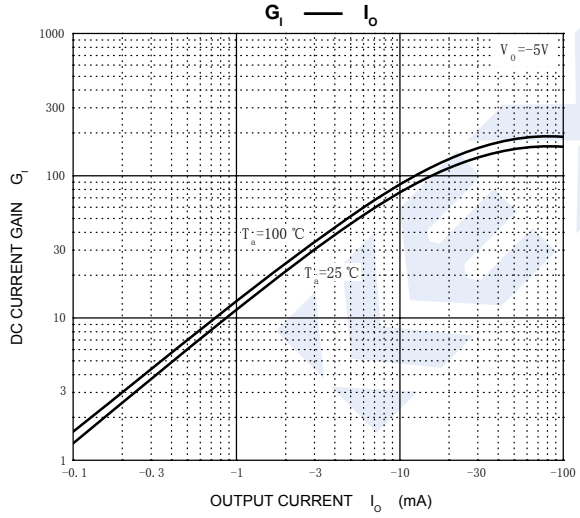
ON Characteristics



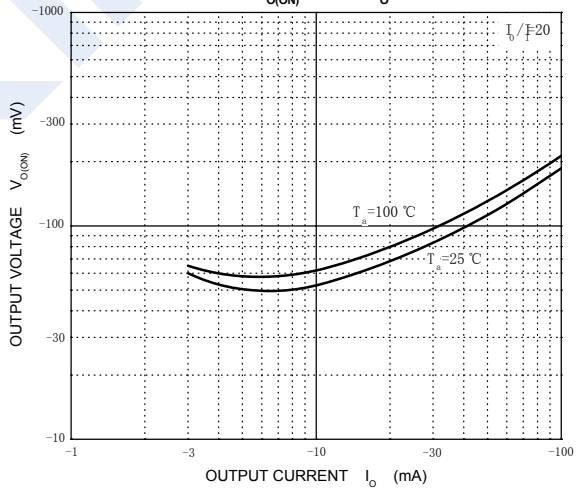
OFF Characteristics



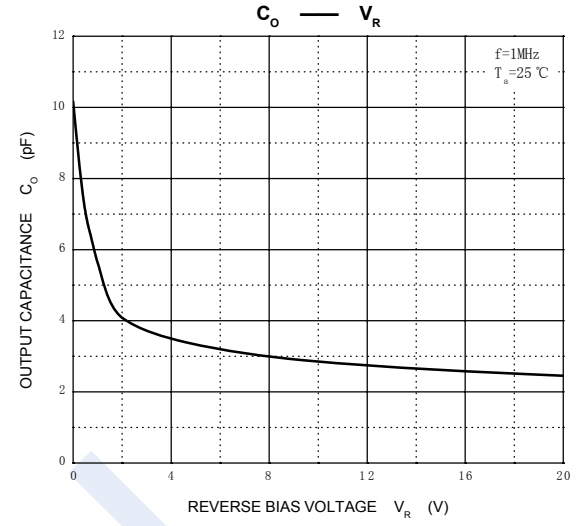
G_I — I_O



$V_{O(ON)}$ — I_O



C_O — V_R



P_D — T_a