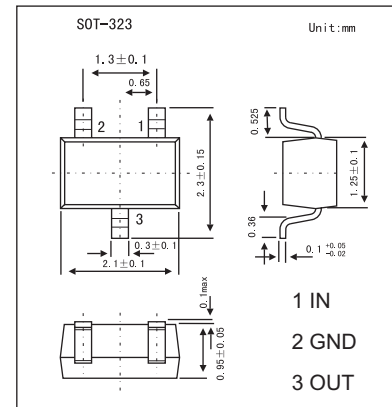
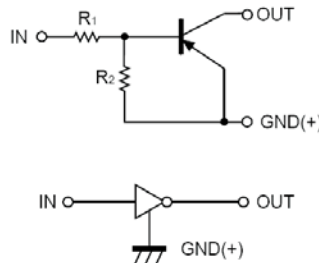


Digital Transistors (built-in resistors)

DTA124EUA

■ Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-40 to 10	V
Output current	I_o	-30	mA
	I_c	-100	
Power dissipation	P_D	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_o=-100\mu A$			-0.5	V
	$V_{I(on)}$	$V_O=-0.2V, I_o=-5mA$	-3			
Output voltage	$V_{O(on)}$	$I_o/I_i=-10mA/-0.5mA$		-0.1	-0.3	V
Input current	I_i	$V_i=-5V$			-0.36	mA
Output current	$I_{o(off)}$	$V_{CC}=-50V, V_i=0V$			-0.5	μA
DC current gain	G_I	$V_o=-5V, I_o=-5mA$	56			
Input resistance	R_1		15.4	22	28.6	K Ω
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

Marking	15
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■ TypIacl Characteristics

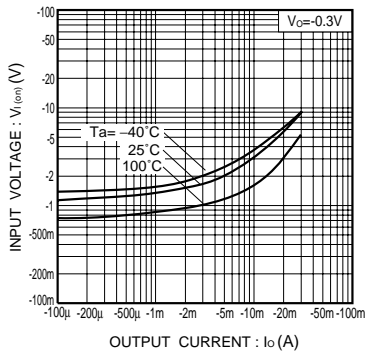


Fig.1 Input voltage vs. output current (ON characteristics)

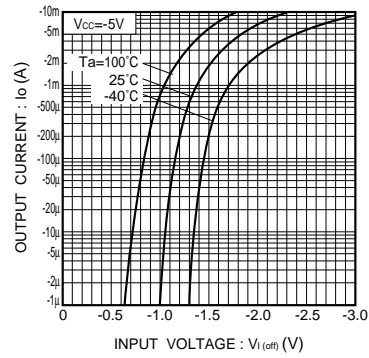


Fig.2 Output current vs. input voltage (OFF characteristics)

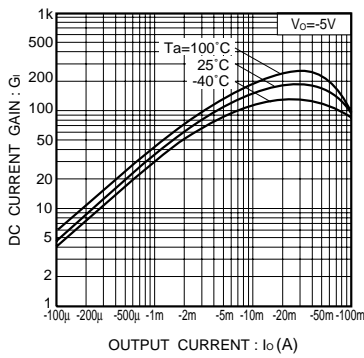


Fig.3 DC current gain vs. output current

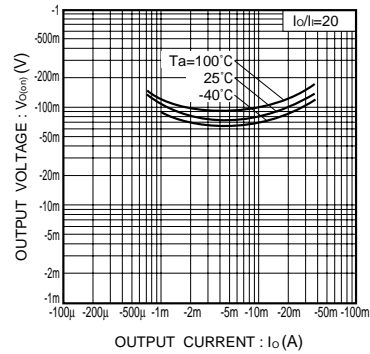


Fig.4 Output voltage vs. output current