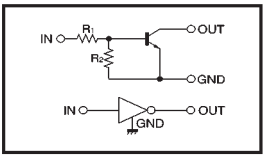
Digital transistor (built-in resistors)

DTD122JK

●Features

1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input, and parasitic effects are almost completely eliminated.
3) Only the on / off conditions need to be set for operation, making device design easy.
4) Higher mounting densities can be achieved.

●Circuit schematic



●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_I	−5～+5	V
Output current	I_O	500	mA
Power dissipation	Pd	200	mW
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

●Package, marking, and packaging specification

Part No.	DTD122JK
Package	SMT3
Marking	G4C
Packaging code	T146
Basic ordering unit (pieces)	3000

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	—	—	0.5	V	V_{CC}=5V , I_O=100 μA
	$V_{I(on)}$	2	—	—		V_O=0.3V , I_O=30mA
Output voltage	$V_{O(on)}$	—	0.1	0.3	V	I_O/I_I=50mA/2.5mA
Input current	I_I	—	—	45	mA	V_I=5V
Output current	$I_{O(off)}$	—	—	0.5	μA	V_{CC}=50V , V_I=0V
DC current gain	G_I	47	—	—	—	I_O=50mA , V_O=5V
Input resistance	R_1	154	220	286	Ω	—
Resistance ratio	R_2/R_1	17.1	21.3	25.6	—	—
Transition frequency	fr	—	250	—	MHz	V_{CE}=10V , I_E=−50mA , f=100MHz *