JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

Digital Transistors (Built-in Resistors)

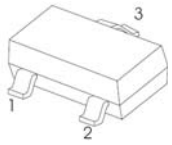
DTB113ZCA DIGITAL TRANSISTOR (PNP)

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

PIN CONNENCTIONS, MARKING and EQUIVALENT CIRCUIT

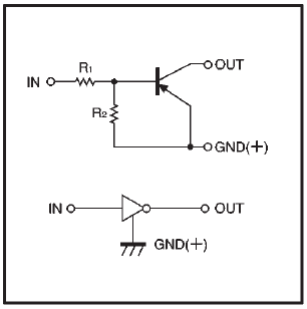
DTB113ZCA **SOT-23**



1. IN
2. GND
3. OUT

MARKING:G12

Equivalent Circuit



MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage	-10～+5	V
I_O	Output Current	-500	mA
P_D	Power Dissipation	200	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	V_{CC}=-5V,I_O=-100μA	-0.3			V
	$V_{I(on)}$	V_O=-0.3V,I_O=-20mA			-3	V
Output voltage	$V_{O(on)}$	I_O/I_I=-50mA/-2.5mA			-0.3	V
Input current	I_I	V_I=-5V			-7.2	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=-50mA	56			
Input resistance	R_1		0.7	1	1.3	kΩ
Resistance ratio	R_2/R_1		8	10	12	
Transition frequency	f_T	V_O=-10V ,I_O=-5mA,f=100MHz		200		MHz