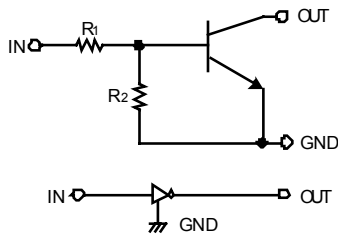


NPN DIGITAL TRANSISTOR  
(BUILT-IN RESISTORS)

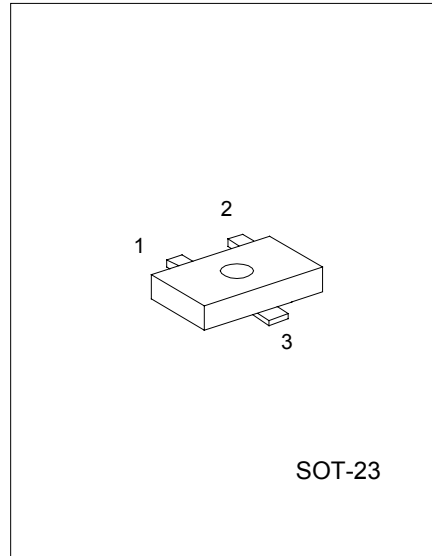
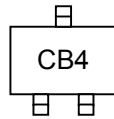
FEATURES

- \*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.

EQUIVALENT CIRCUIT



MARKING



1: GND 2: IN 3: OUT

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

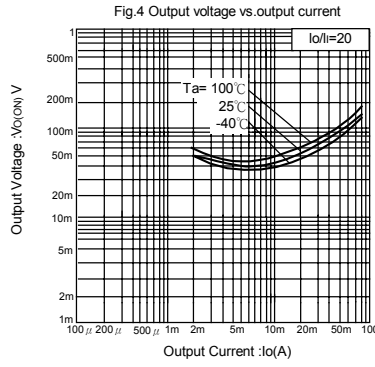
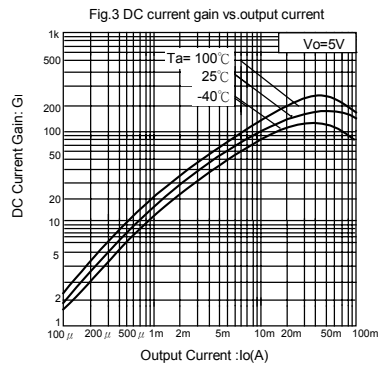
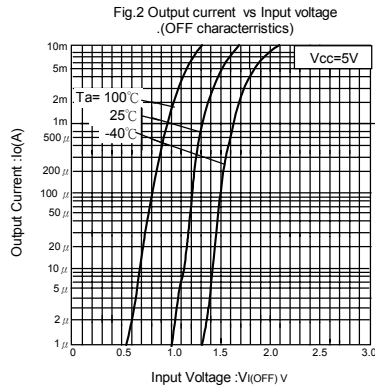
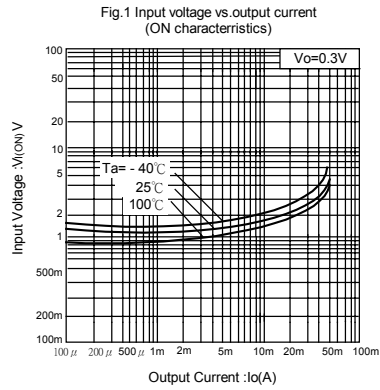
PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	50	V
Input Voltage	V <sub>IN</sub>	-10~+40	V
Output Current	I <sub>O</sub>	50	mA
	I <sub>C(Max)</sub>	100	
Power Dissipation	P <sub>d</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =5V, I <sub>O</sub> = 100 μA			0.5	V
	V <sub>I(on)</sub>	V <sub>O</sub> =0.3V, I <sub>O</sub> = 10mA	3			
Output Voltage	V <sub>O(on)</sub>	I <sub>O</sub> /I <sub>I</sub> = 10mA/0.5 mA		0.1	0.3	V
Input Current	I <sub>I</sub>	V <sub>I</sub> = 5V			0.88	mA
Output Current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V, V <sub>I</sub> =0V			0.5	μA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> = 5V, I <sub>O</sub> = 5mA	30			
Input Resistance	R <sub>1</sub>		7	10	13	kΩ
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		0.8	1	1.2	
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>E</sub> =-5mA, f=100MHz *		250		MHz

\*Transition frequency of the device

ELECTRICAL CHARACTERISTIC CURVES



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