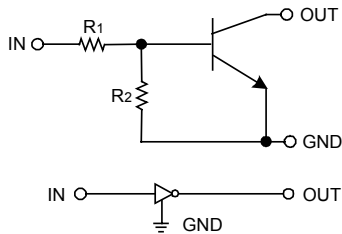


**NPN DIGITAL TRANSISTOR
(BUILT-IN RESISTORS)**

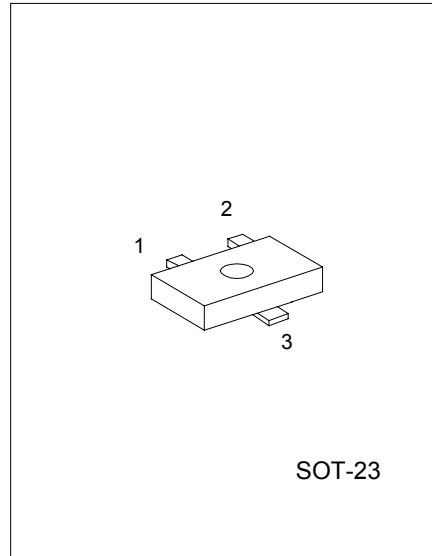
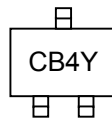
FEATURES

- * 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 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.

EQUIVALENT CIRCUIT



MARKING



SOT-23

1: GND 2: IN 3: OUT

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

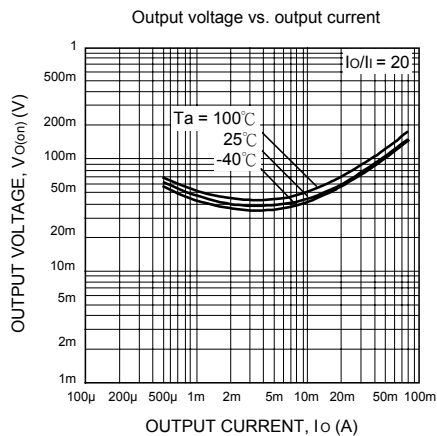
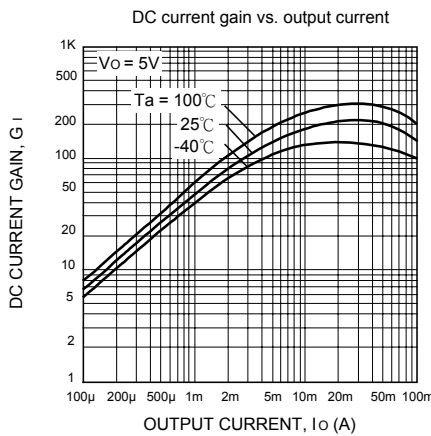
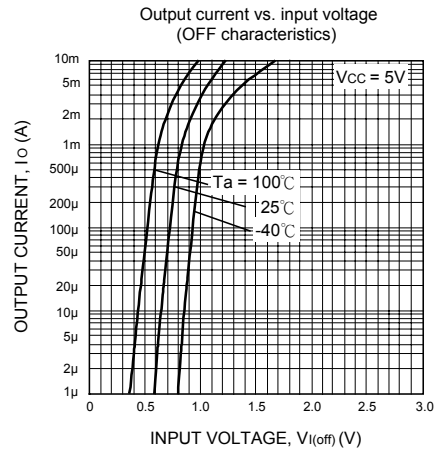
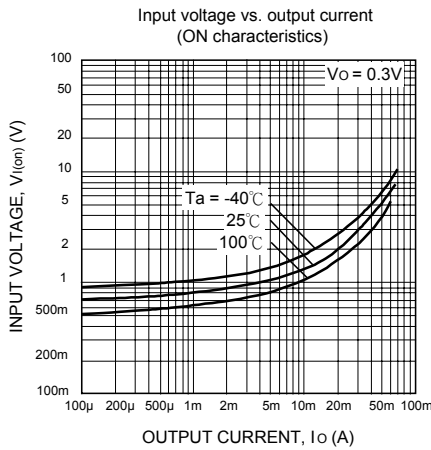
PARAMETER	SYMBOL	RATINGS	UNIT
Supply voltage	Vcc	50	V
Input voltage	VIN	-6 ~ +40	V
Output current	Io	70	mA
	IC (Max.)	100	
Power Dissipation	Pd	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input voltage	VI (off)	Vcc=5V, Io=100 μA			0.3	V
	VI (on)	Vo=0.3V, Io=1mA	1.4			
Output voltage	VO (on)	Io/Ii=5mA/0.25mA		0.1	0.3	V
Input current	Ii	Vi=5V			0.88	mA
Output current	Io (off)	Vcc=50V, Vi=0V			0.5	μA
DC current gain	GI	Vo=5V, Io=5mA	68			
Input resistance	R1		7	10	13	KΩ
Resistance ratio	R2/R1		3.7	4.7	5.7	
Transition frequency	fT	VCE=10V, IE=-5mA, f=100MHz *		250		MHz

* Transition frequency of the device

ELECTRICAL CHARACTERISTIC CURVES



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