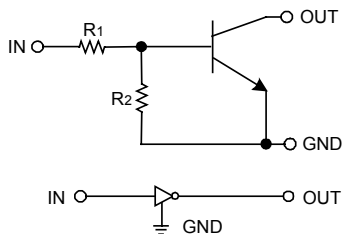


NPN DIGITAL TRANSISTOR
(BUILT-IN RESISTORS)

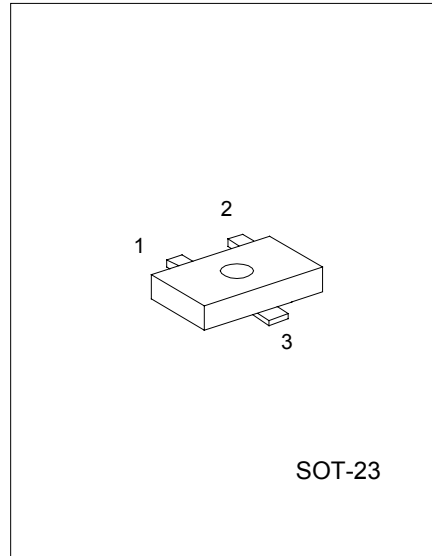
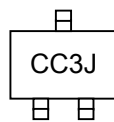
FEATURES

- * 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



1: GND 2: IN 3: OUT

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

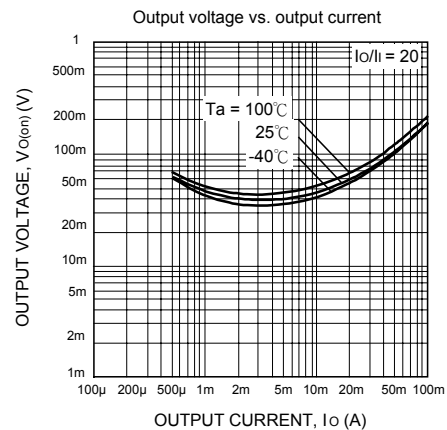
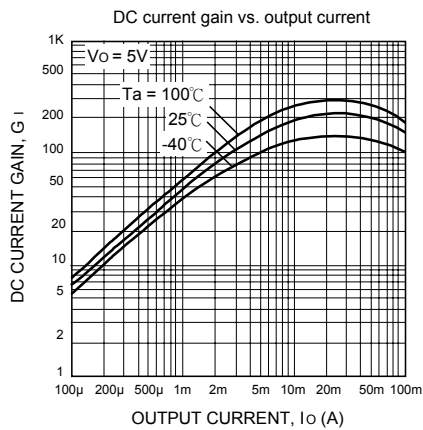
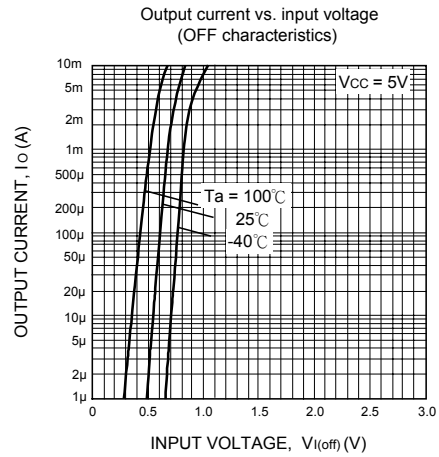
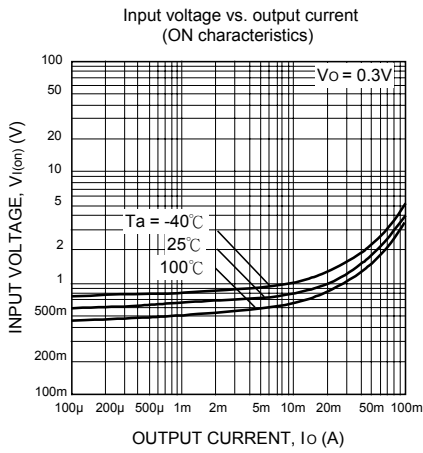
PARAMETER	SYMBOL	RATINGS	UNIT
Supply voltage	V _{CC}	50	V
Input voltage	V _{IN}	-5 ~ +12	V
Output current	I _O	100	mA
	I _{C (Max.)}	100	
Power Dissipation	P _D	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input voltage	V _{I (off)}	V _{CC} =5V, I _O =100 μA			0.5	V
	V _{I (on)}	V _O =0.3V, I _O =5mA	1.1			
Output voltage	V _{O (on)}	I _O /I _I =5mA/0.25mA		0.1	0.3	V
Input current	I _I	V _I =5V			3.6	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 =10mA	80			
Input resistance	R ₁		1.54	2.2	2.86	KΩ
Resistance ratio	R ₂ /R ₁		17	21	26	
Transition frequency	f _T	V _{CE} =10V, I _E =-5mA, f=100MHz *		250		MHz

* Transition frequency of the device

ELECTRICAL CHARACTERISTIC CURVES



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