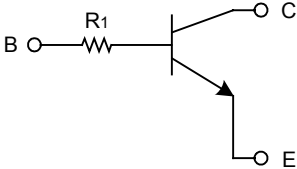


NPN DIGITAL TRANSISTOR (BUILT-IN RESISTOR)

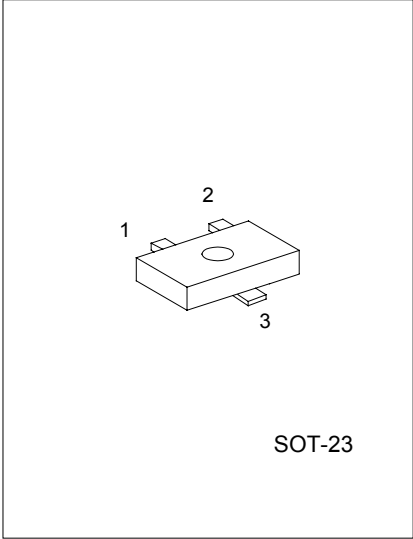
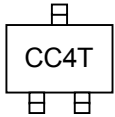
FEATURES

- *Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- *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: EMITTER 2: BASE 3: COLLECTOR

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V _{CB0}	50	V
Collector-emitter voltage	V _{CE0}	50	V
Emitter-base voltage	V _{EB0}	5	V
Collector current	I _c	100	mA
Collector Power dissipation	P _c	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV _{CB0}	I _c =50 μA	50			V
Collector-emitter breakdown voltage	BV _{CE0}	I _c =1mA	50			V
Emitter-base breakdown voltage	BV _{EB0}	I _E =50 μA	5			V
Collector cutoff current	I _{CBO}	V _{CB} =50V			0.5	μA
Emitter cutoff current	I _{EBO}	V _{EB} =4V			0.5	μA
Collector-emitter saturation voltage	V _{CE(sat)}	I _c =5mA, I _B =0.5mA			0.3	V
DC current transfer ratio	h _{FE}	V _{CE} =5V, I _c =1mA	100	250	600	
Input resistance	R ₁		15.4	22	28.6	kΩ
Transition frequency	f _r	V _{CE} =10V, I _E = -5mA, f=100MHz *		250		MHz

* Transition frequency of the device

ELECTRICAL CHARACTERISTIC CURVES

Fig.1 DC current gain vs.collector current

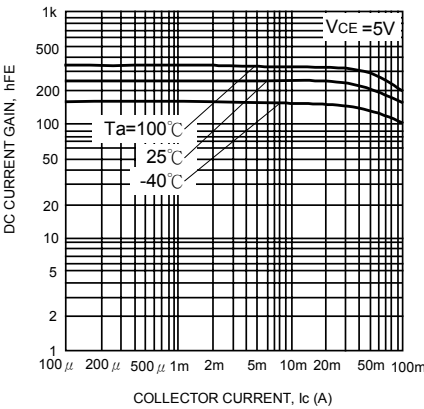
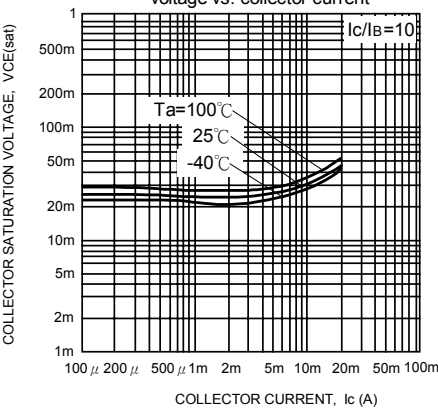


Fig.2 Collector-emitter saturation voltage vs. collector current



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