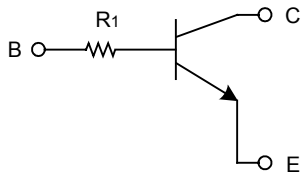


NPN DIGITAL TRANSISTOR  
(BUILT-IN RESISTOR)

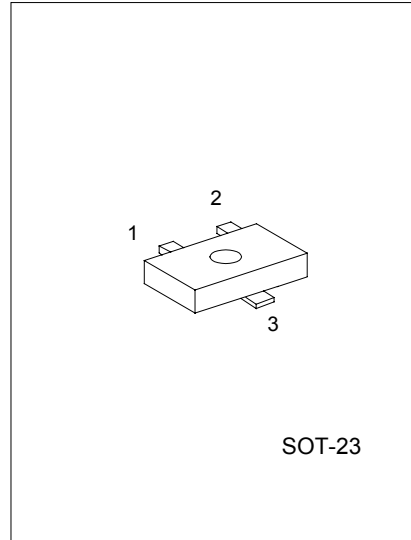
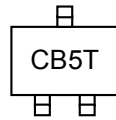
FEATURES

- \*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	RATING	UNIT
Collector-base voltage	V <sub>CB0</sub>	50	V
Collector-emitter voltage	V <sub>CE0</sub>	50	V
Emitter-base voltage	V <sub>EB0</sub>	5	V
Collector current	I <sub>c</sub>	100	mA
Collector Power dissipation	P <sub>c</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, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV <sub>CB0</sub>	I <sub>c</sub> =50μA	50			V
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	I <sub>c</sub> =1mA	50			V
Emitter-base breakdown voltage	BV <sub>EB0</sub>	I <sub>E</sub> =50μA	5			V
Collector cutoff current	I <sub>CB0</sub>	V <sub>CB</sub> =50V			0.5	μA
Emitter cutoff current	I <sub>EB0</sub>	V <sub>EB</sub> =4V			0.5	μA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =1mA, I <sub>B</sub> =0.1mA			0.3	V
DC current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =1mA	100	250	600	
Input resistance	R1		70	100	130	kΩ
Transition frequency	f <sub>r</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz *		250		MHz

\* Transition frequency of the device

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