

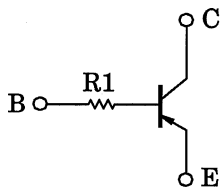
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

# RN2112,RN2113

Switching, Inverter Circuit, Interface Circuit and Driver Circuit Applications

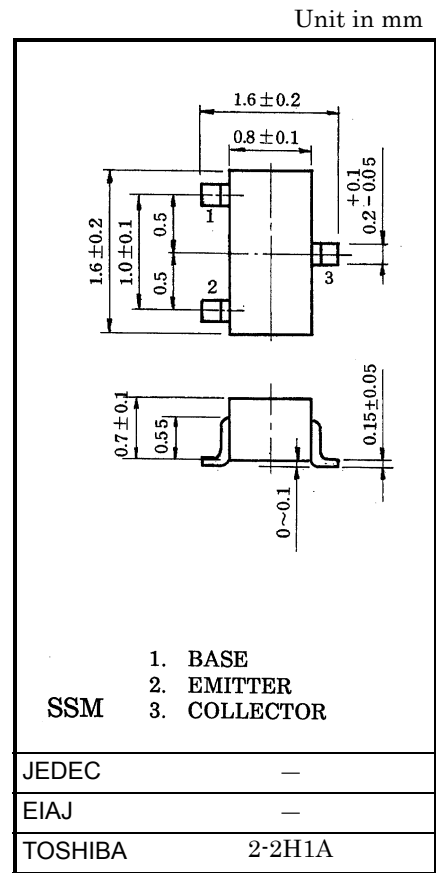
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1112, RN1113

## Equivalent Circuit



## Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-100	mA
Collector power dissipation	P <sub>C</sub>	100	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C



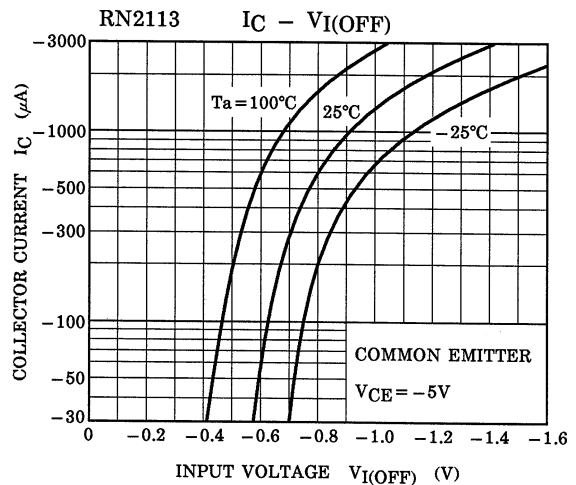
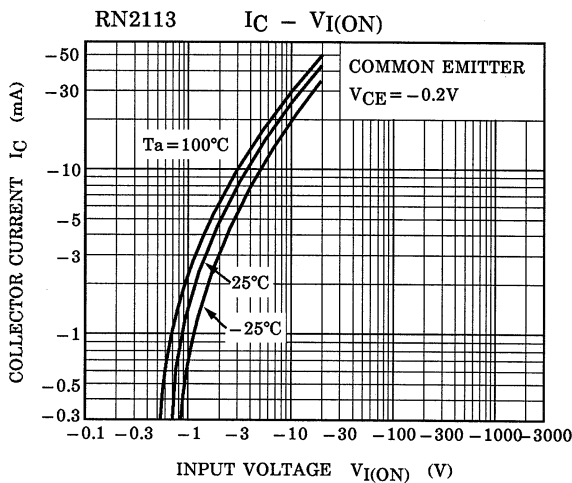
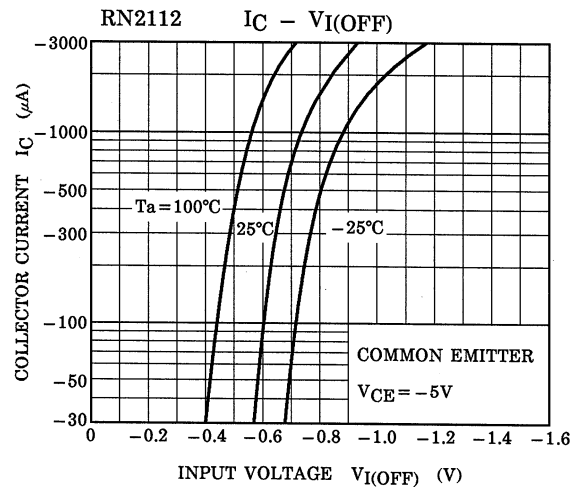
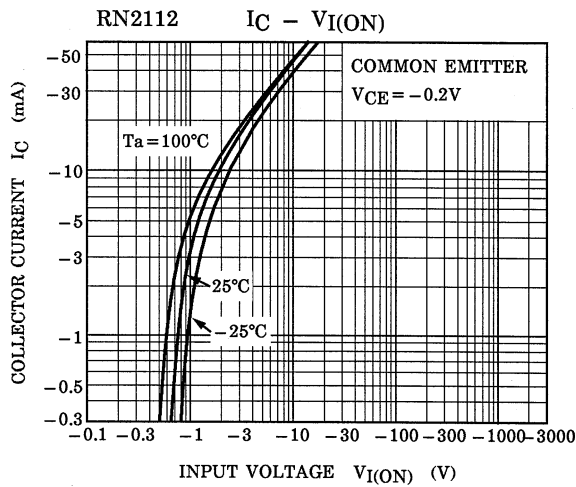
Weight: 2.4mg

## Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	—	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0	—	—	-100	nA
Emitter cut-off current	I <sub>EBO</sub>	—	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0	—	—	-100	nA
DC current gain	h <sub>FE</sub>	—	V <sub>CE</sub> = -5V, I <sub>C</sub> = -1mA	120	—	400	—
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	I <sub>C</sub> = -5mA, I <sub>B</sub> = -0.25mA	—	-0.1	-0.3	V
Transition frequency	f <sub>T</sub>	—	V <sub>CE</sub> = -10V, I <sub>C</sub> = -5mA	—	200	—	MHz
Collector output capacitance	C <sub>ob</sub>	—	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	3	6	pF
Input resistor	RN2112	R1	—	15.4	22	28.6	kΩ
	RN2113			32.9	47	61.1	

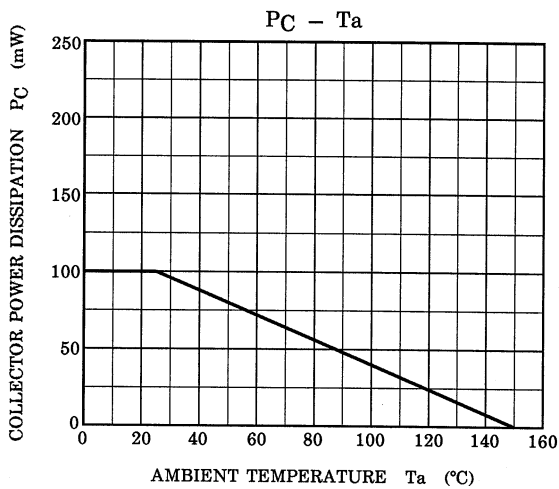
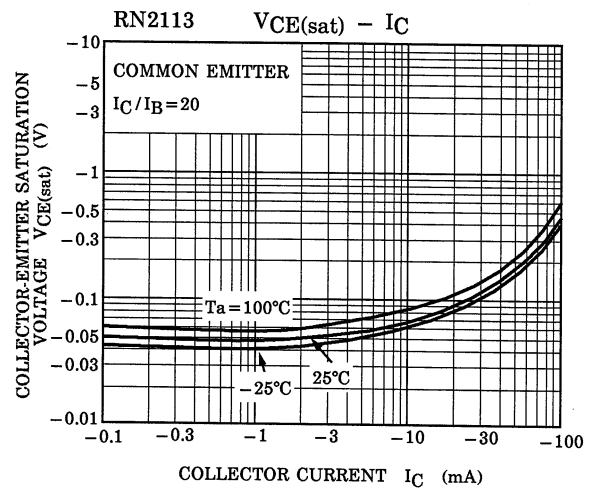
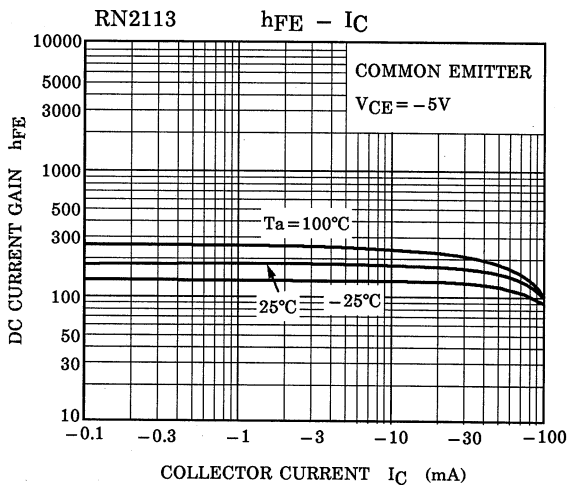
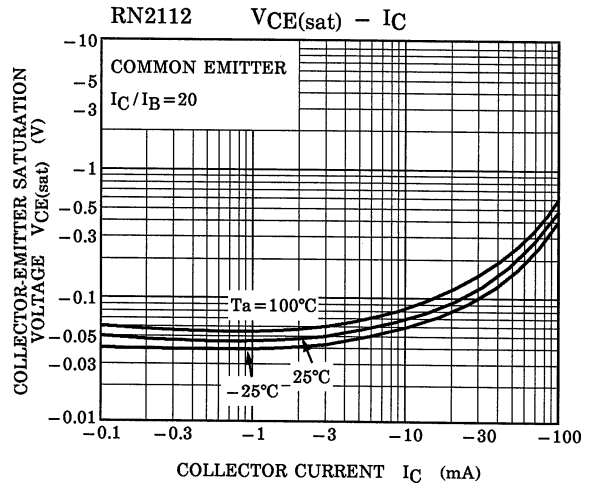
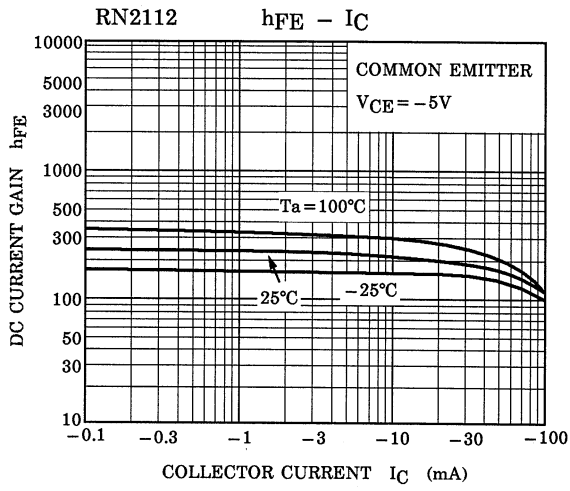
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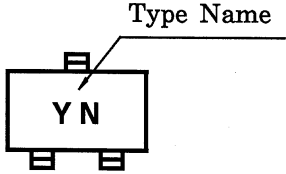
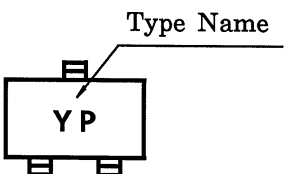
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Type Name	Marking
RN2112	 <p>The diagram shows a rectangular component with two small rectangular feet at the bottom. The letters 'Y N' are printed in the center. A line points from the text 'Type Name' to the 'Y' character.</p>
RN2113	 <p>The diagram shows a rectangular component with two small rectangular feet at the bottom. The letters 'Y P' are printed in the center. A line points from the text 'Type Name' to the 'Y' character.</p>