

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

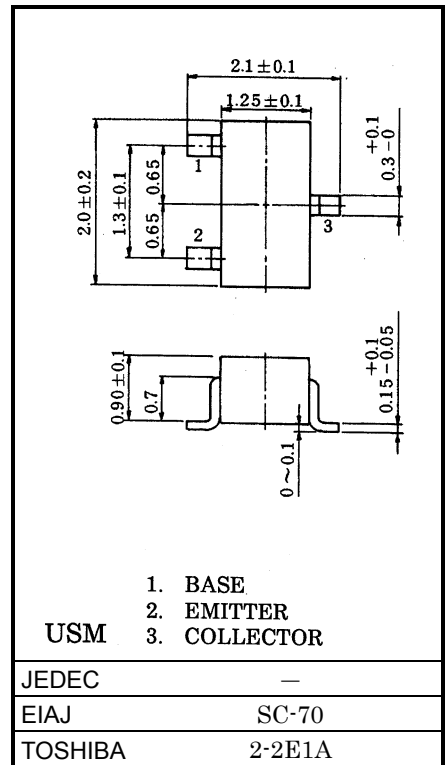
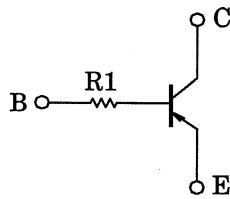
RN2312,RN2313

Switching, Inverter Circuit, Interface Circuit
And Driver Circuit Applications

Unit in mm

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1312, RN1313

Equivalent Circuit



Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55~150	°C

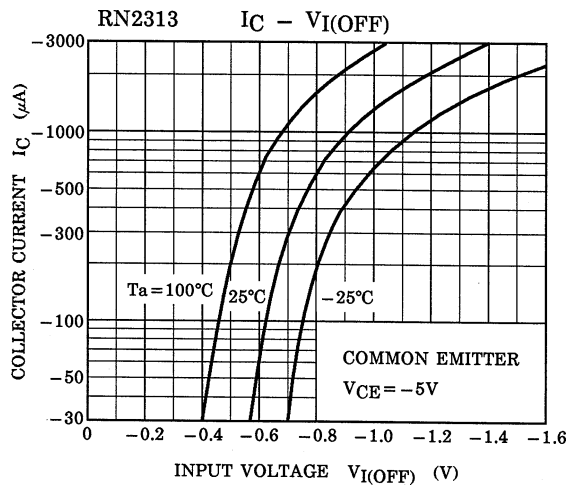
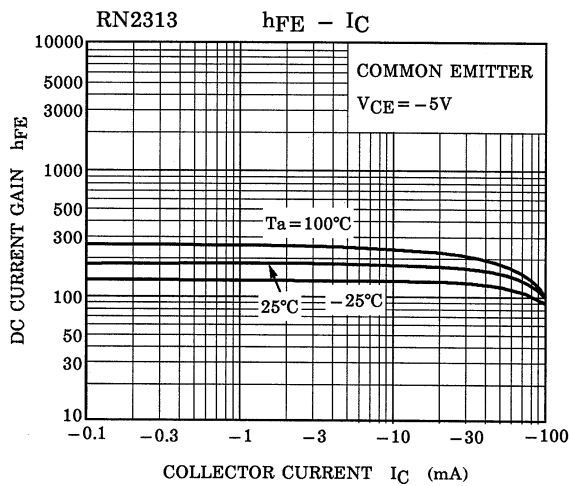
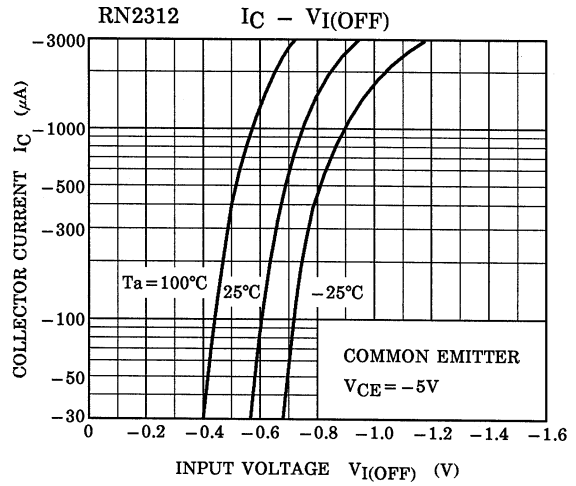
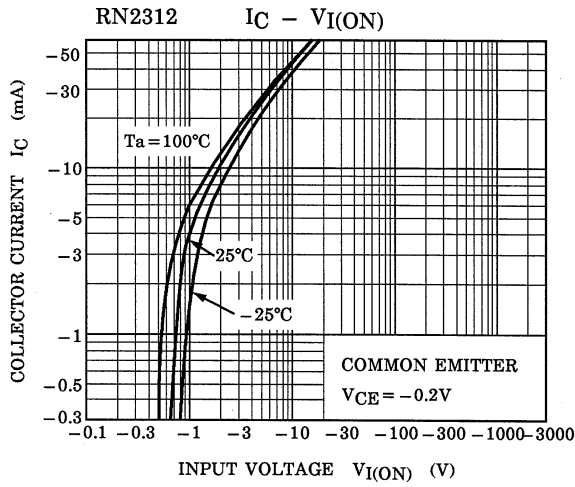
Weight: 0.006g

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	—	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
Emitter cut-off current	I_{EBO}	—	$V_{EB} = -5V, I_C = 0$	—	—	-100	nA
DC current gain	h_{FE}	—	$V_{CE} = -5V, I_C = -1mA$	120	—	400	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	$I_C = -5mA, I_B = -0.25mA$	—	-0.1	-0.3	V
Transition Frequency	f_T	—	$V_{CE} = -10V, I_C = -5mA$	—	200	—	MHz
Collector output capacitance	C_{ob}	—	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	3	6	pF
Input resistor	RN2312	R1	—	15.4	22	28.6	kΩ
	RN2313			32.9	47	61.1	

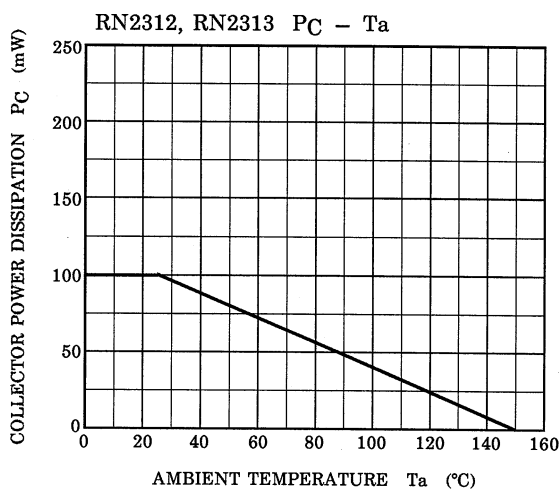
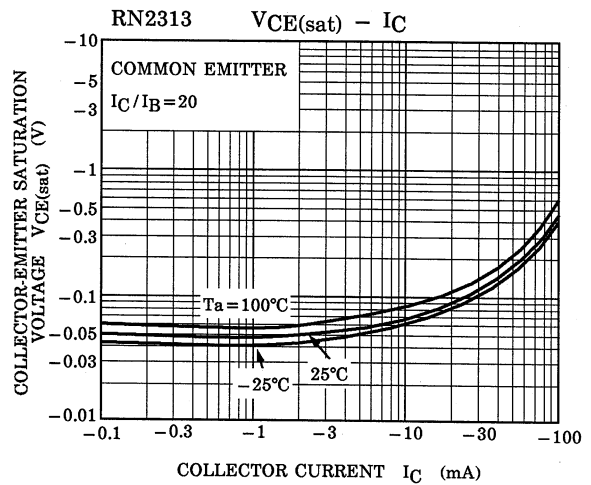
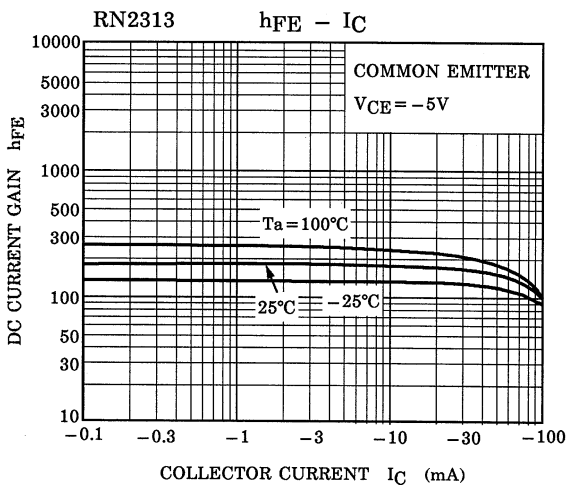
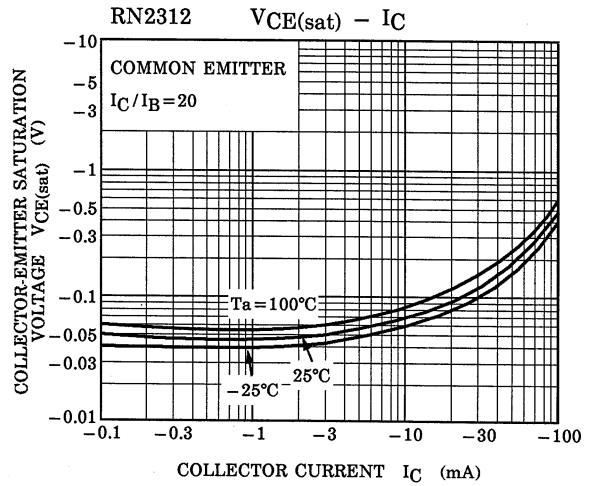
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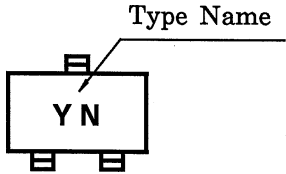
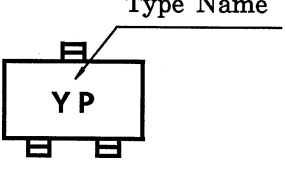
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Type Name	Marking
RN2312	 A diagram of a rectangular component with two pins at the top and two at the bottom. The letters 'Y N' are printed in the center. A line points from the text 'Type Name' to the 'Y' character.
RN2313	 A diagram of a rectangular component with two pins at the top and two at the bottom. The letters 'Y P' are printed in the center. A line points from the text 'Type Name' to the 'Y' character.