

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

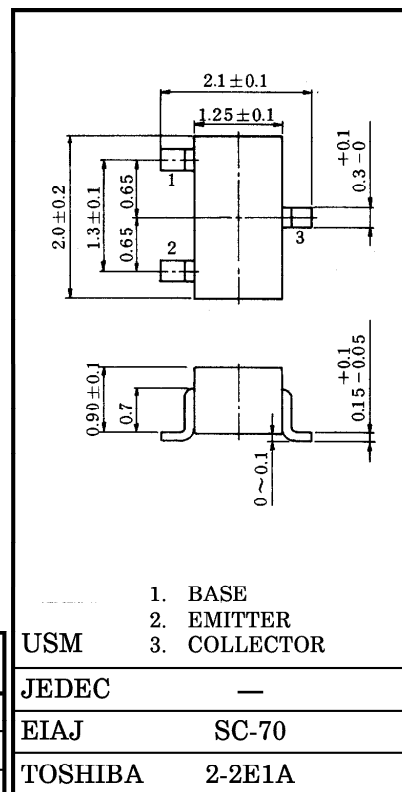
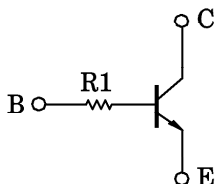
RN1312, RN1313

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 RN2312, RN2313

EQUIVALENT CIRCUIT



Weight : 0.006g

MAXIMUM RATINGS (Ta = 25°C)

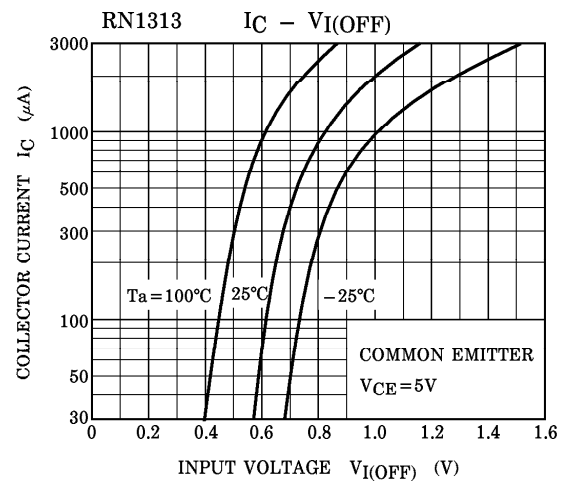
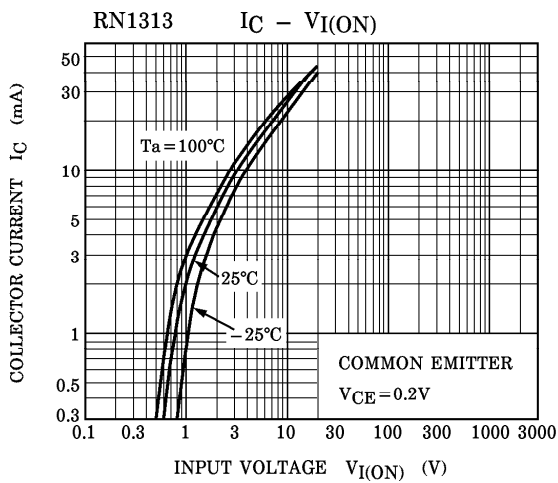
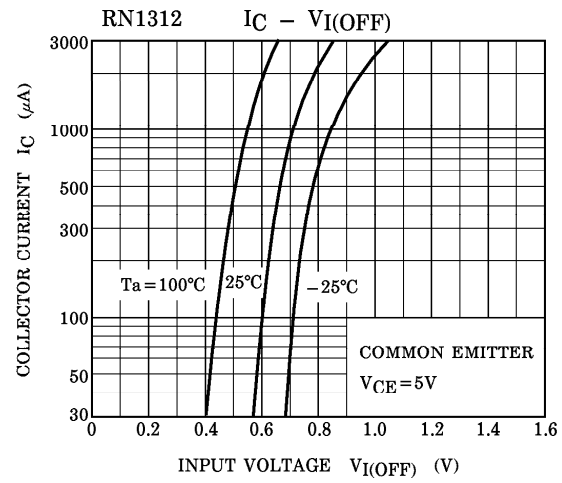
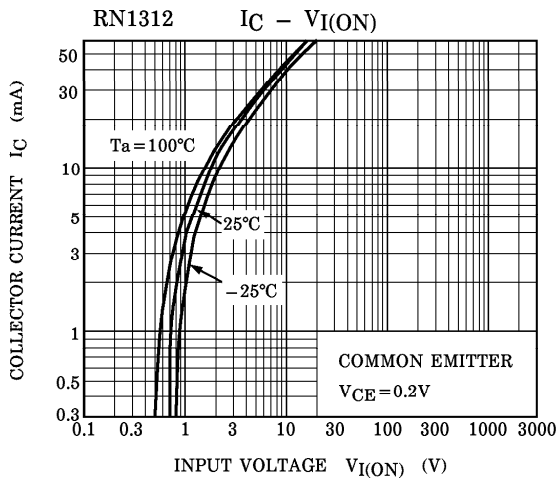
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	100	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	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	—	700		
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	—	250	—	MHz	
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	3	6	pF	
Input Resistance	RN1312	R1	—	15.4	22	28.6	kΩ
	RN1313			32.9	47	61.1	

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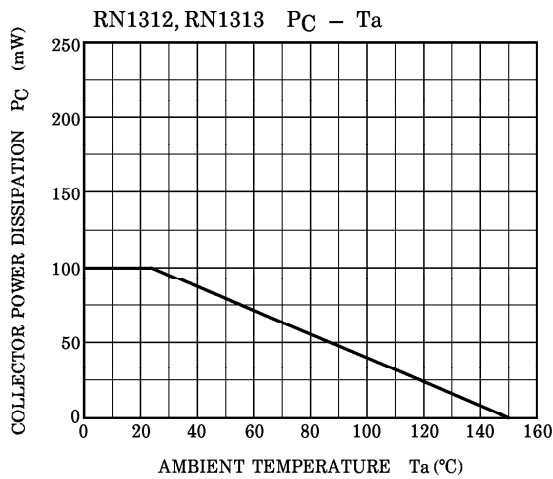
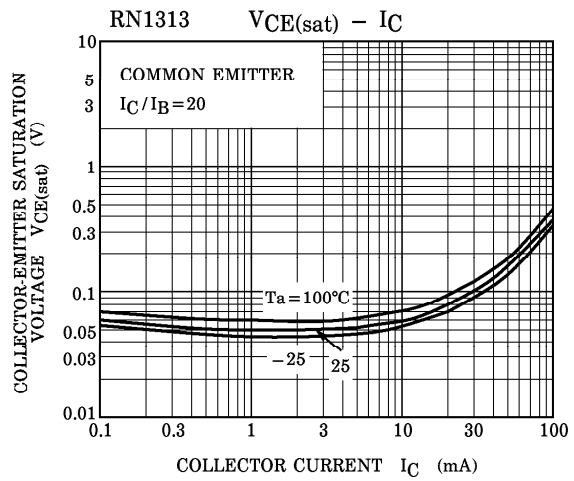
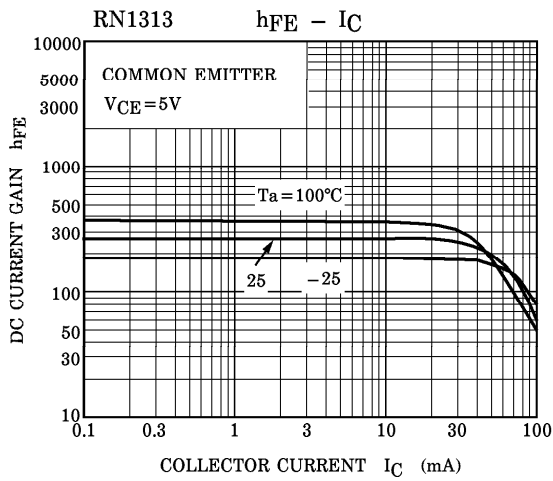
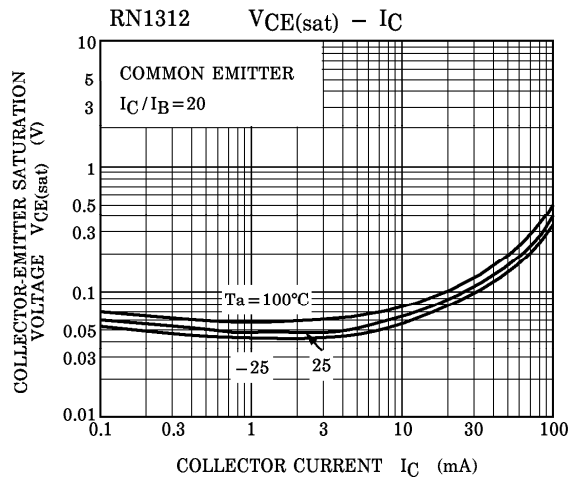
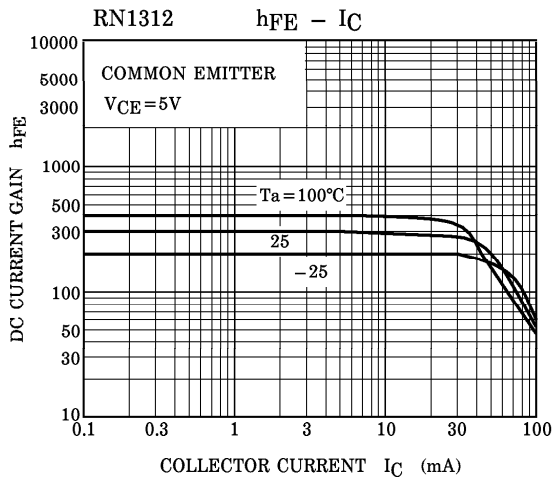
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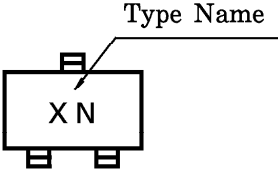
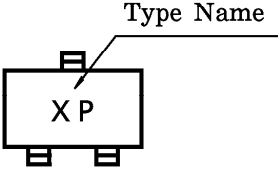


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TYPE NAME	MARKING
RN1312	 A schematic diagram of a component marking. It shows a rectangular box with the letters "X N" inside. A small square symbol is positioned at the top center of the box. A line extends from the top right of the box, pointing to the text "Type Name". Below the box, there are two small square symbols, one on the left and one on the right.
RN1313	 A schematic diagram of a component marking, similar to the one above. It shows a rectangular box with the letters "X P" inside. A small square symbol is positioned at the top center of the box. A line extends from the top right of the box, pointing to the text "Type Name". Below the box, there are two small square symbols, one on the left and one on the right.