

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

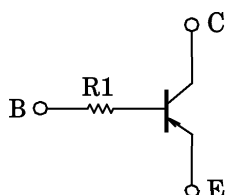
RN2310, RN2311

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT
AND DRIVER CIRCUIT APPLICATIONS

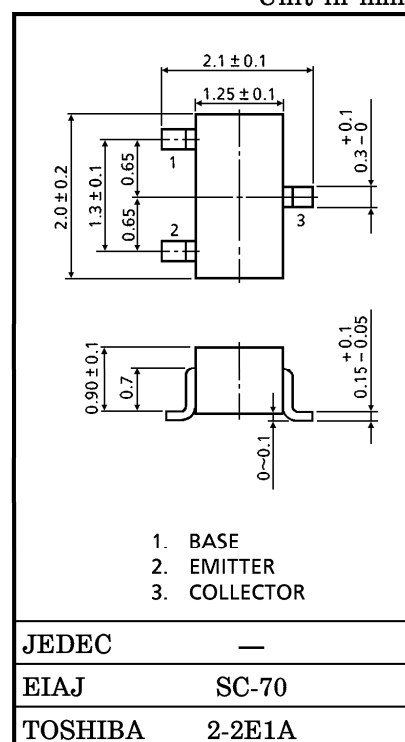
Unit in mm

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1310, RN1311

EQUIVALENT CIRCUIT

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



JEDEC

EIAJ

TOSHIBA

SC-70

2-2E1A

Weight : 0.006g

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

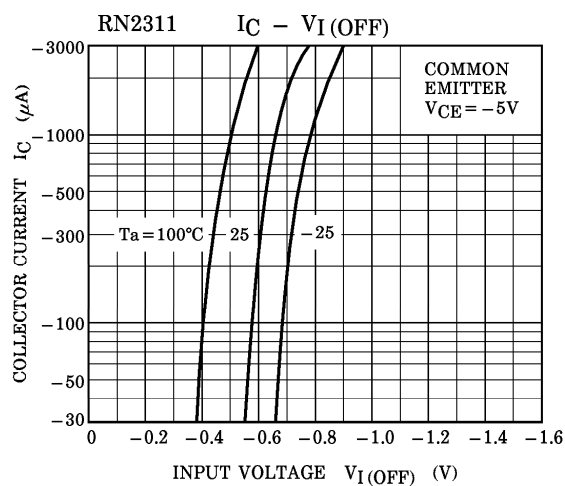
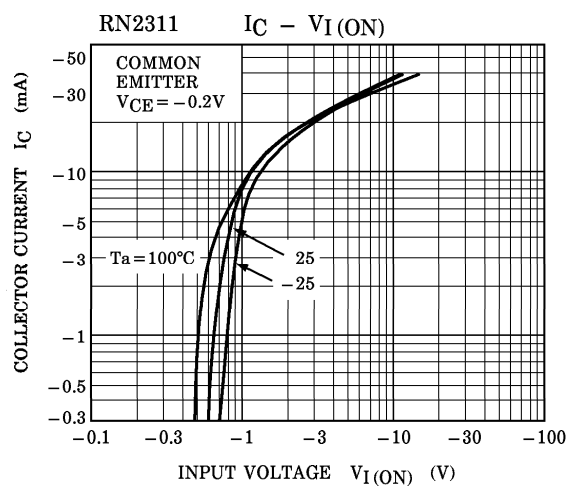
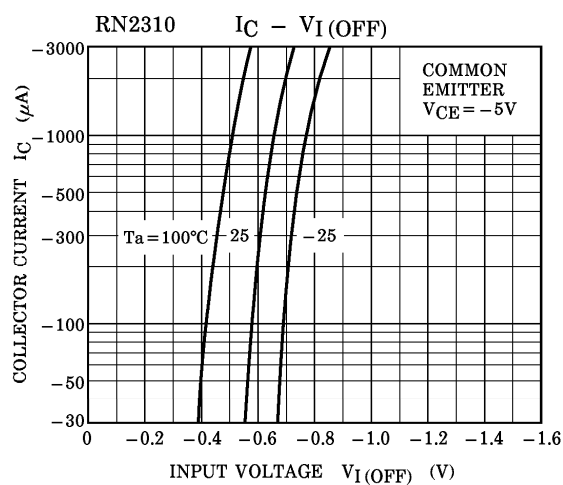
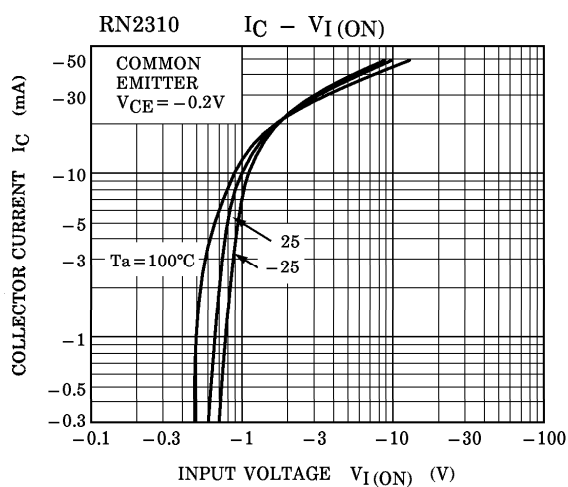
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$	—	—	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$	—	—	-100	nA
DC Current Gain	h_{FE}	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	120	—	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -5\text{mA}, I_B = -0.25\text{mA}$	—	-0.1	-0.3	V
Transition Frequency	f_T	$V_{CE} = -10\text{V}, I_C = -5\text{mA}$	—	200	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	—	3	6	pF
Input Resistor	RN2310	R1	3.29	4.7	6.11	k Ω
	RN2311		7	10	13	

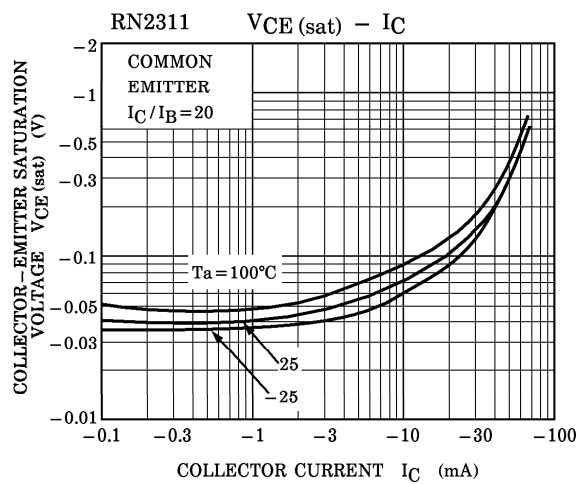
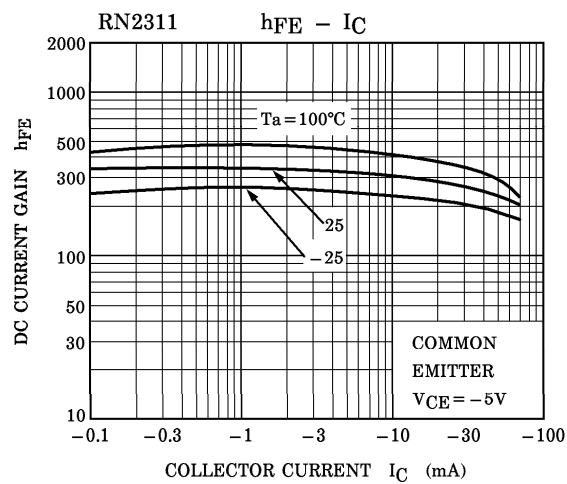
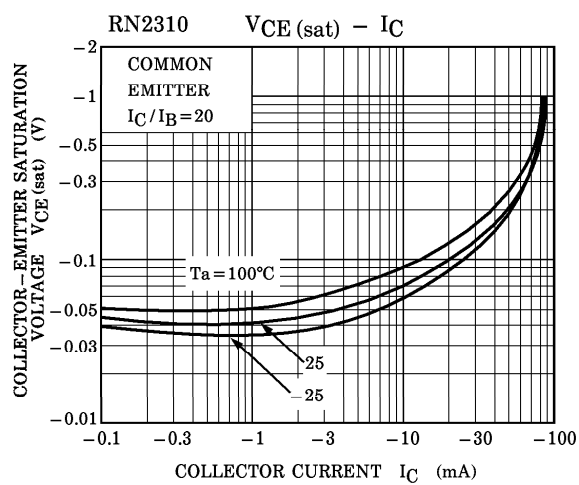
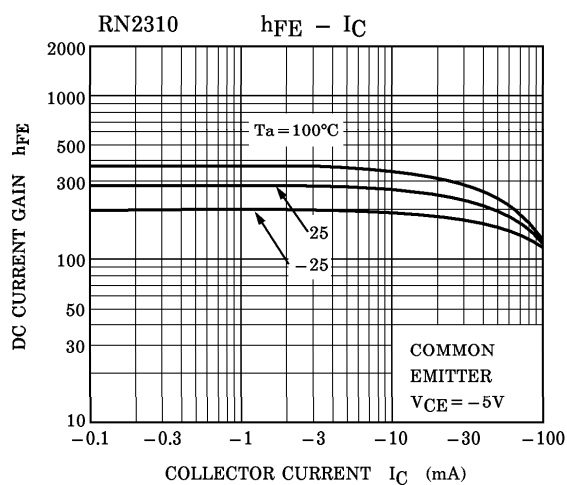
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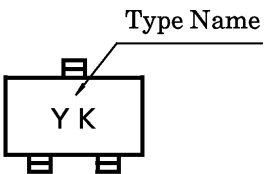
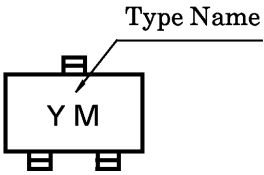
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TYPE NAME	MARKING
RN2310	 The diagram shows a rectangular component with three pins: one on the top edge and two on the bottom edge. The text 'Y K' is printed inside the rectangle. A leader line points from the text 'Type Name' to the 'Y' character.
RN2311	 The diagram shows a rectangular component with three pins: one on the top edge and two on the bottom edge. The text 'Y M' is printed inside the rectangle. A leader line points from the text 'Type Name' to the 'Y' character.