

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

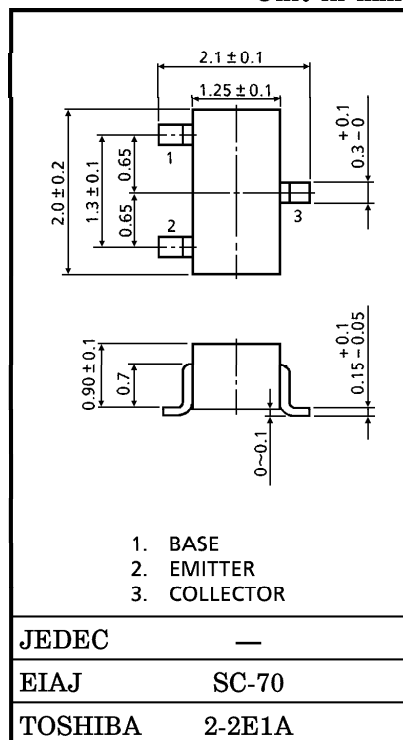
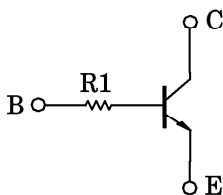
RN1310, RN1311

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 RN2310, RN2311

EQUIVALENT CIRCUIT



Weight : 0.006g

MAXIMUM RATINGS (Ta = 25°C)

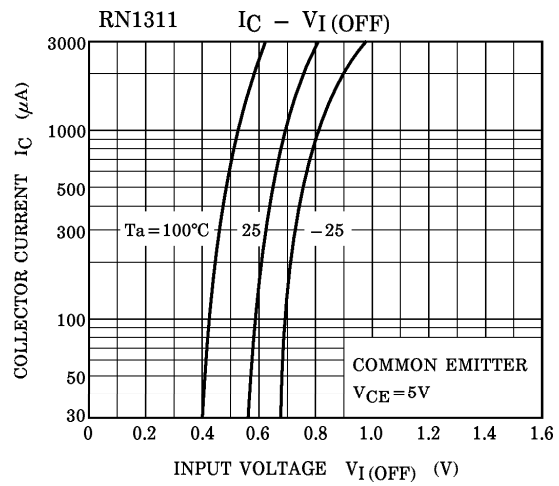
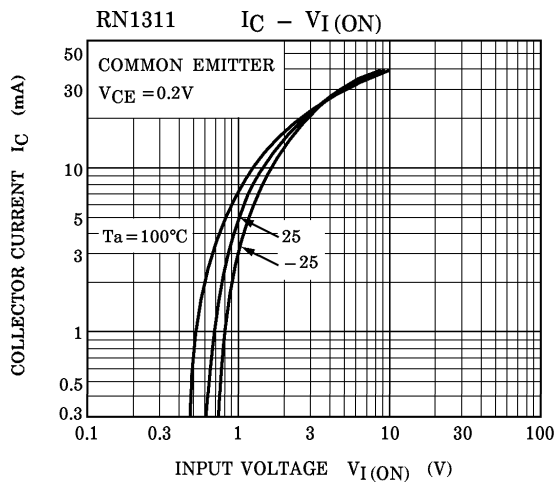
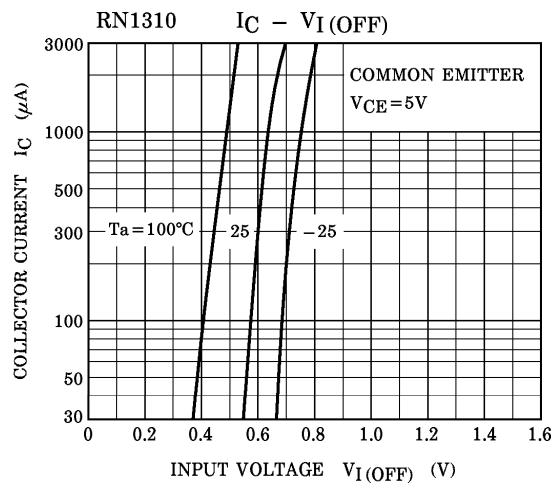
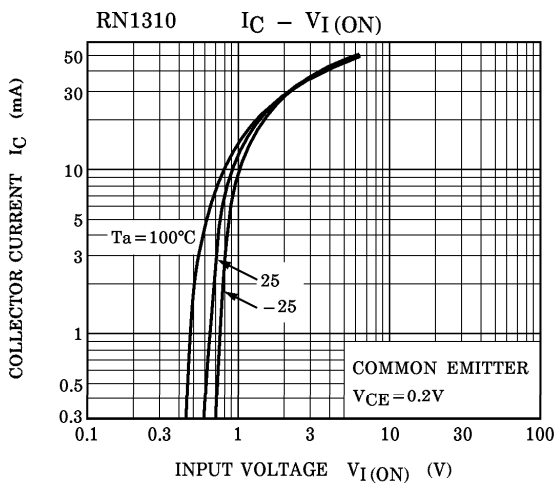
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _C	100	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

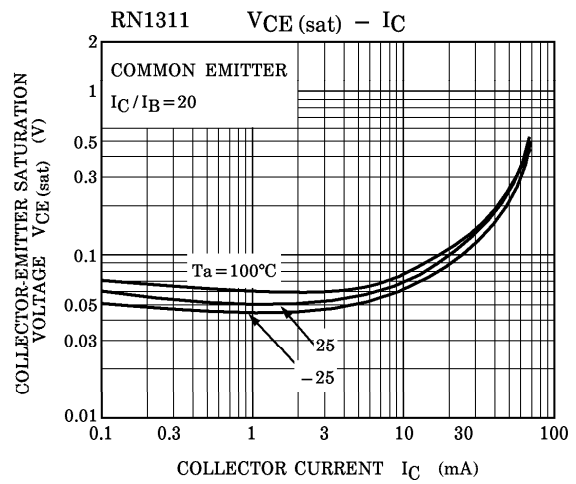
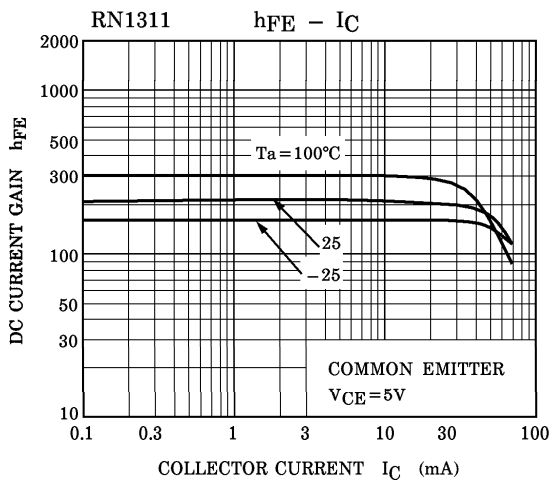
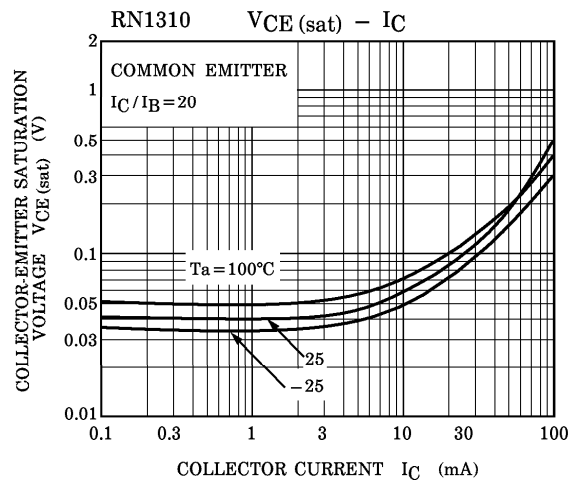
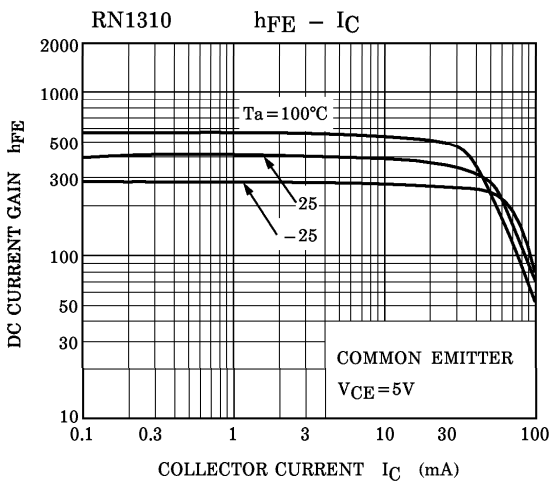
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

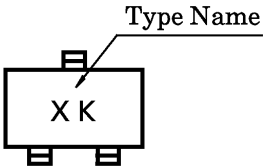
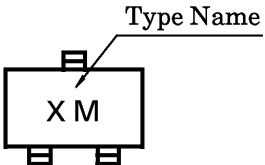
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CB0}	V _{CB} = 50V, I _E = 0	—	—	100	nA
Emitter Cut-off Current	I _{EB0}	V _{EB} = 5V, I _C = 0	—	—	100	nA
DC Current Gain	h _{FE}	V _{CE} = 5V, I _C = 1mA	120	—	700	
Collector-Emitter Saturation Voltage	V _{CE (sat)}	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 Resistor	RN1310	R1	3.29	4.7	6.11	kΩ
	RN1311		7	10	13	

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TYPE NAME	MARKING
RN1310	 A diagram of a rectangular component with two pins at the top and two at the bottom. The text 'X K' is printed inside the rectangle. A line points from the text 'Type Name' to the top-left pin.
RN1311	 A diagram of a rectangular component with two pins at the top and two at the bottom. The text 'X M' is printed inside the rectangle. A line points from the text 'Type Name' to the top-left pin.