

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

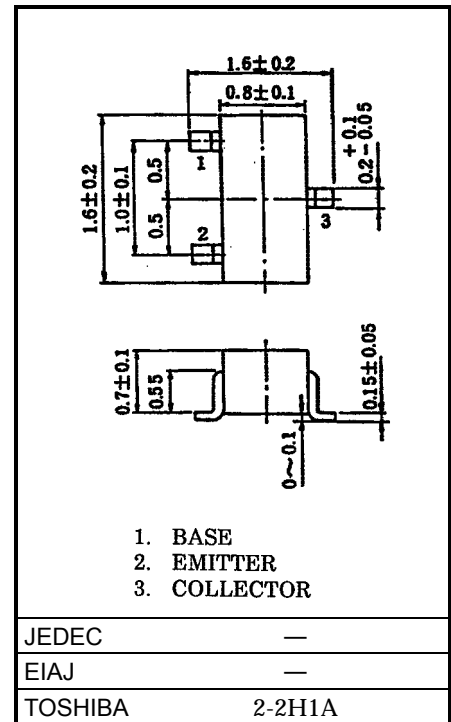
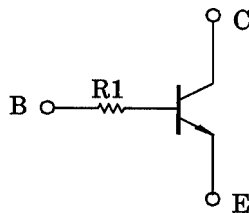
RN1110,RN1111

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 RN2110~RN2111

Equivalent Circuit



1. BASE
2. EMITTER
3. COLLECTOR

Weight: 2.4mg

Maximum Ratings (Ta = 25°C)

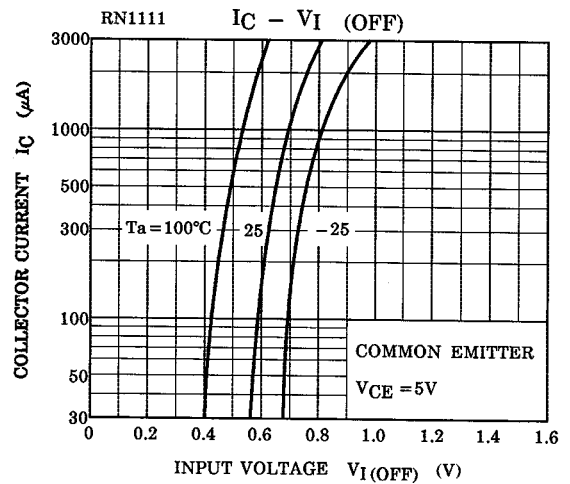
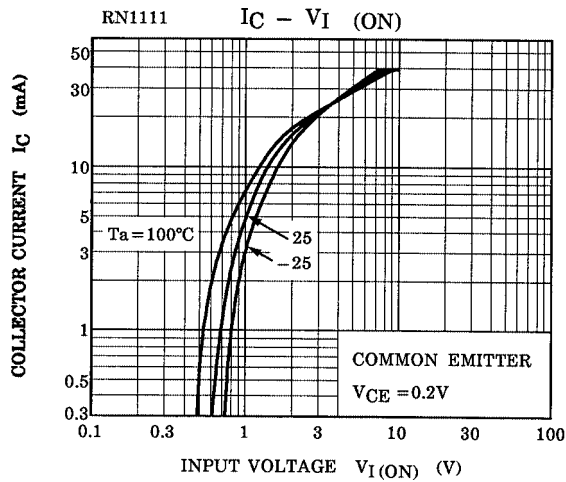
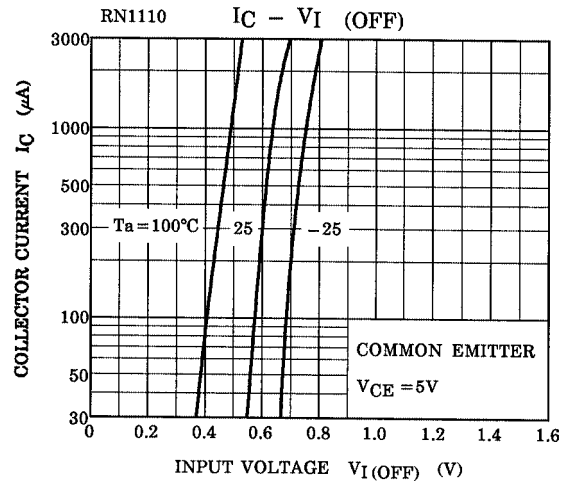
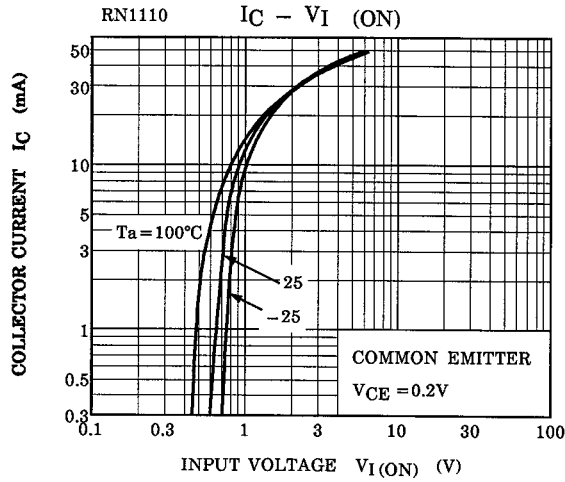
Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	—	$V_{CB} = 50V, I_E = 0$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	—	$V_{EB} = 5V, I_C = 0$	—	—	0.1	μA
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	RN1110	R1	—	3.29	4.7	6.11	k Ω
	RN1111			7	10	13	

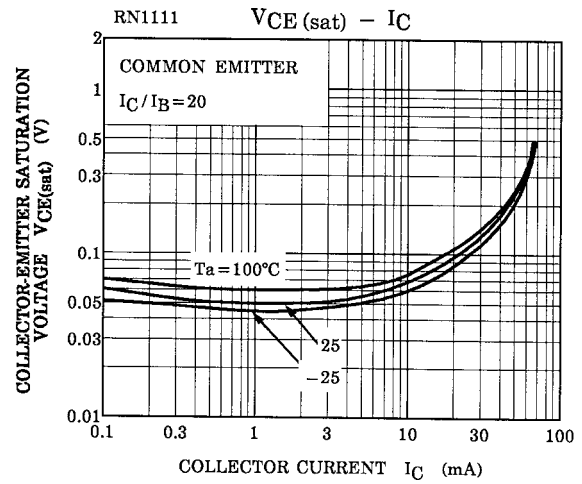
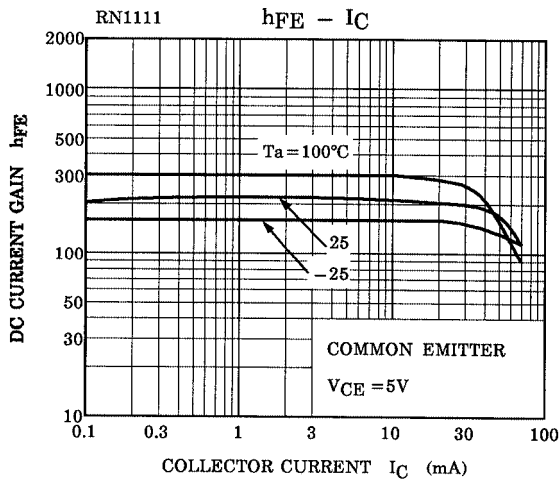
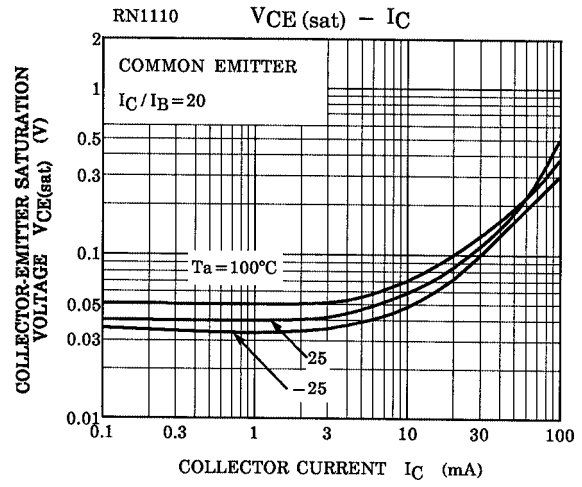
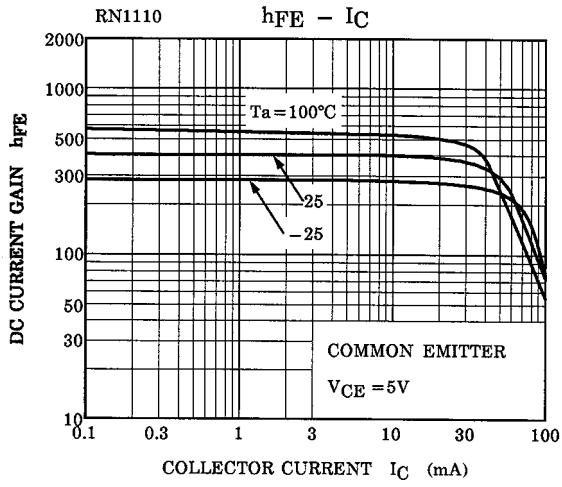
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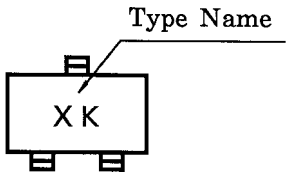
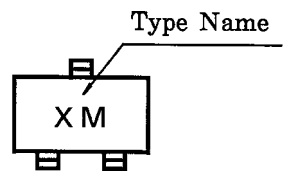
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Type Name	Marking
RN1110	 A diagram of a rectangular component with two pins at the top and two at the bottom. The text "X K" is printed in the center. A line points from the text "Type Name" above to the top-left pin.
RN1111	 A diagram of a rectangular component with two pins at the top and two at the bottom. The text "X M" is printed in the center. A line points from the text "Type Name" above to the top-left pin.