

TOSHIBA Transistor Silicon Npn Epitaxial Type (PCT Process)

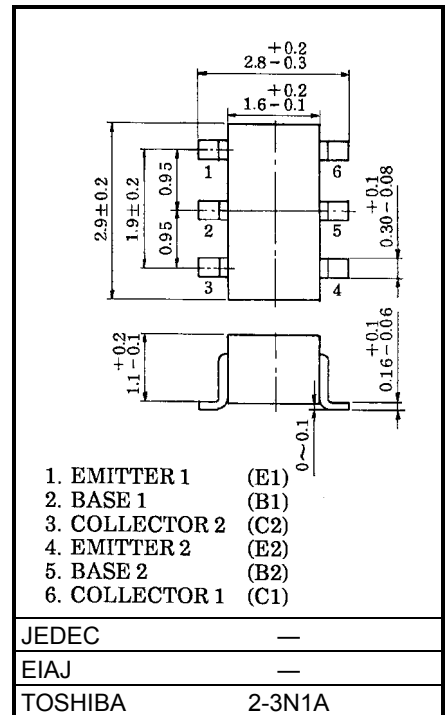
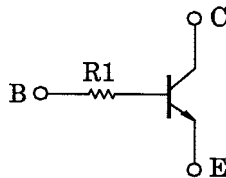
## RN1610,RN1611

Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

Unit: mm

- Including two devices in SM6 (super mini type with 6 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN2610, RN2611

### Equivalent Circuit



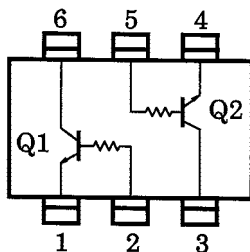
Weight: 0.015g

### Maximum Ratings (Ta = 25°C) (Q1, Q2 Common)

Characterisitic	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	$P_C^*$	300	mW
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

\* Total rating

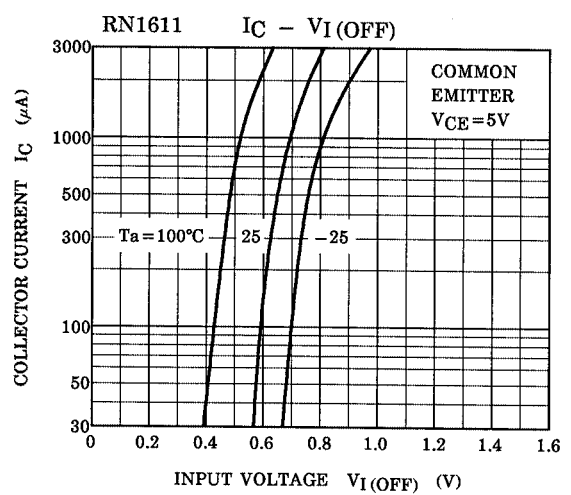
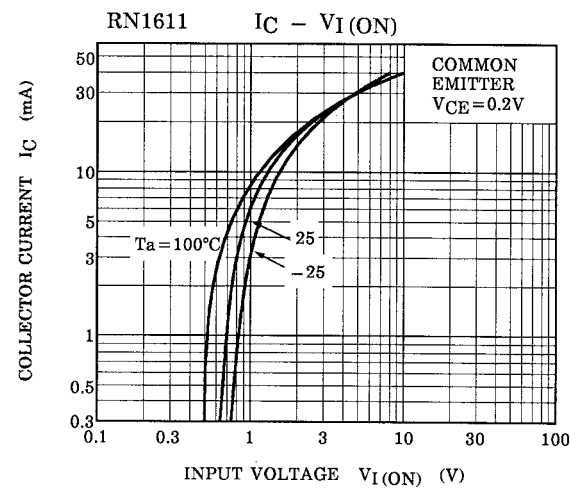
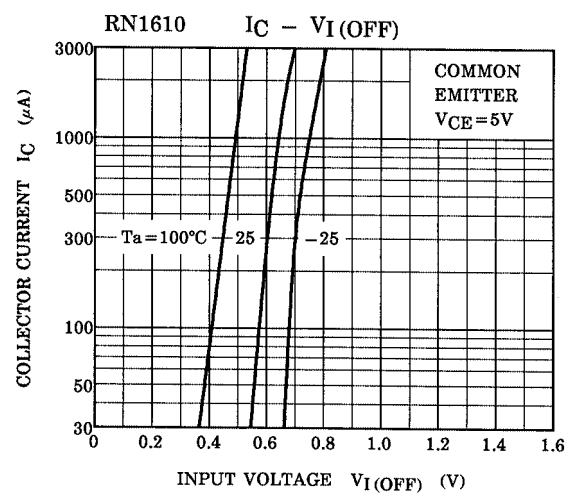
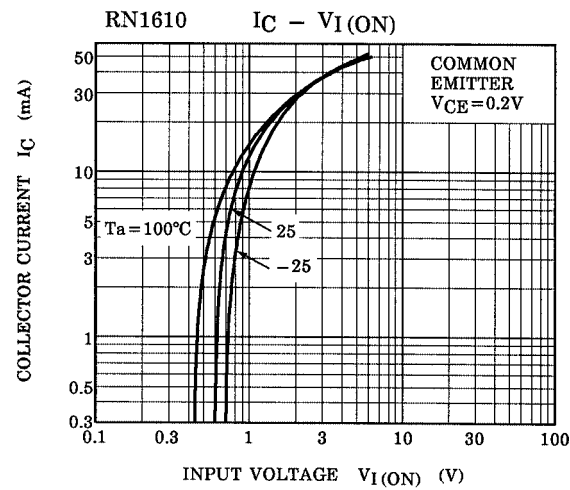
### Equivalent Circuit (Top View)



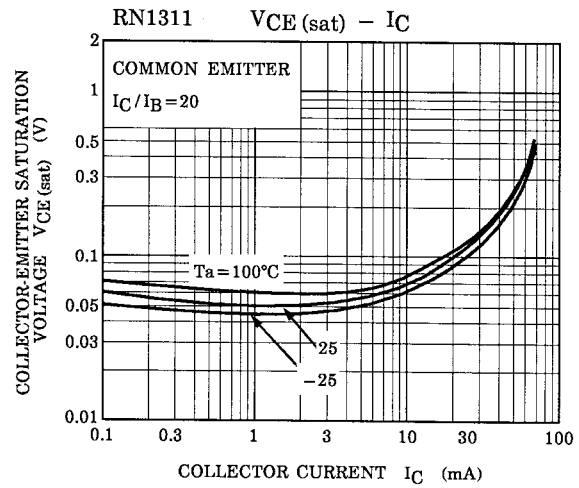
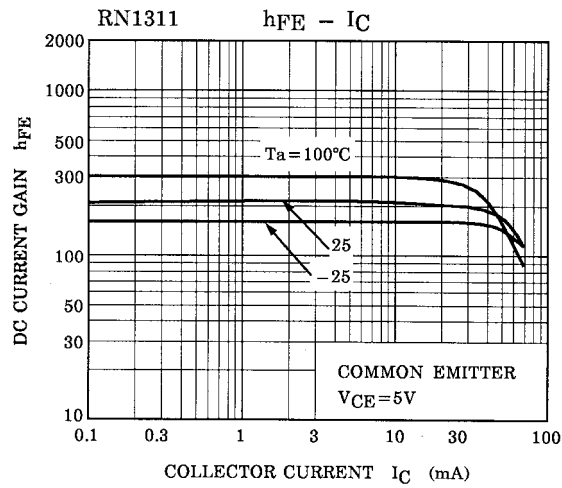
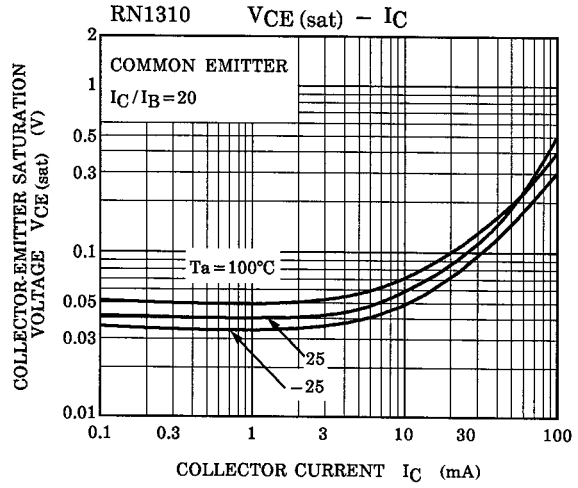
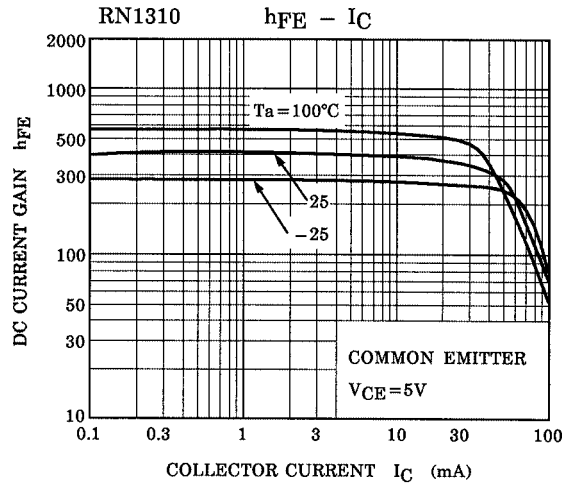
Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

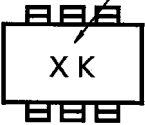
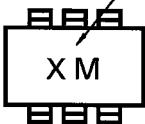
Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	—	V <sub>CB</sub> = 50V, I <sub>E</sub> = 0	—	—	100	nA
Emitter cut-off current		IEBO	—	VEB = 50V, I <sub>C</sub> = 0	—	—	100	nA
DC current gain		h <sub>FE</sub>	—	V <sub>CE</sub> = 50V, I <sub>C</sub> = 1mA	120	—	700	—
Collector-emitter saturation voltage		V <sub>CE</sub> (sat)	—	I <sub>C</sub> = 5mA, I <sub>B</sub> = 0.25mA	—	0.1	0.3	V
Translation frequency		f <sub>T</sub>	—	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5mA	—	250	—	MHz
Collector output capacitance		C <sub>ob</sub>	—	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz	—	3	6	pF
Input resistor	RN1610	R1	—	—	3.29	4.7	6.11	kΩ
	RN1611				7	10	13	

(Q1, Q2 Common)



(Q1, Q2 Common)



Type Name	Marking
RN1610	<div><div>Type Name</div></div>
RN1611	<div><div>Type Name</div></div>

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