

TOSHIBA Transistor Silicon Npn Epitaxial Type (PCT Process)

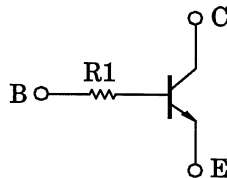
RN1610,RN1611

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

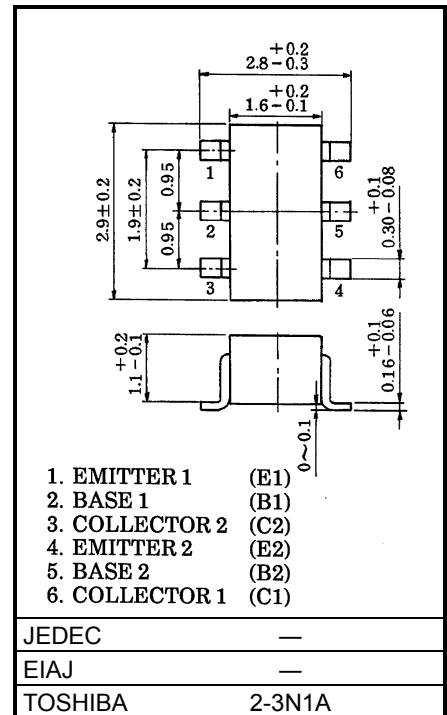
Equivalent Circuit



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

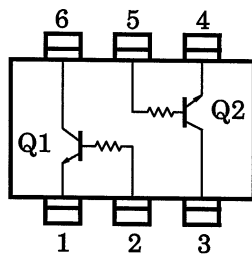
Characterisitic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Collector power dissipation	P_C^*	300	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55~150	°C

* Total rating



Weight: 0.015g

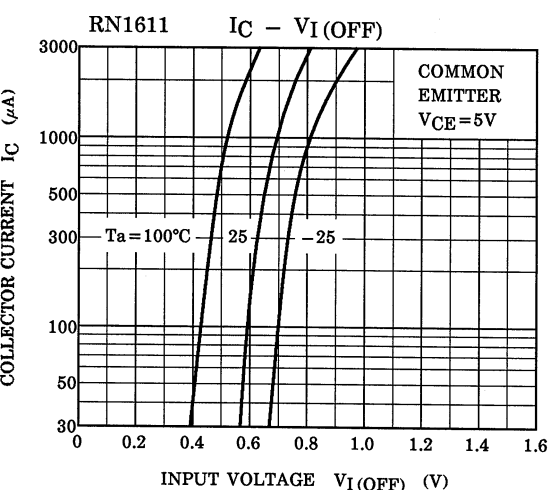
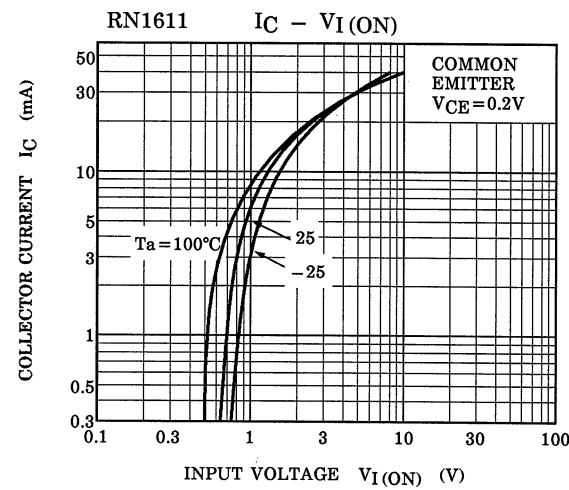
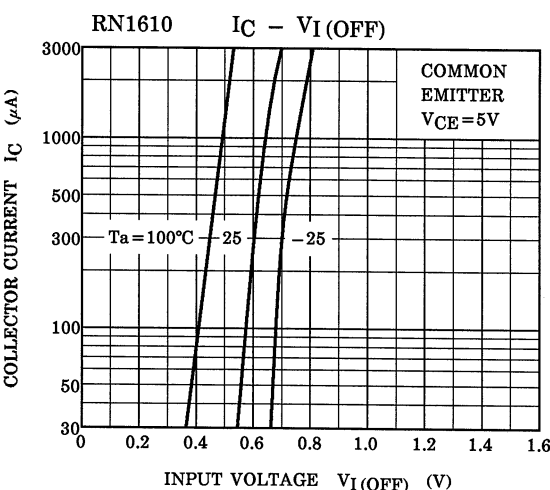
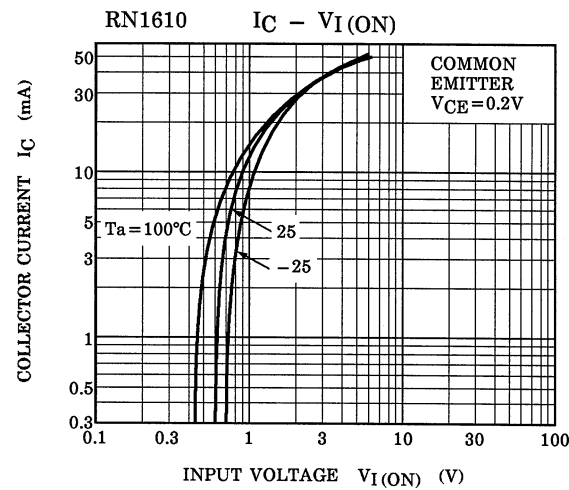
Equivalent Circuit (Top View)



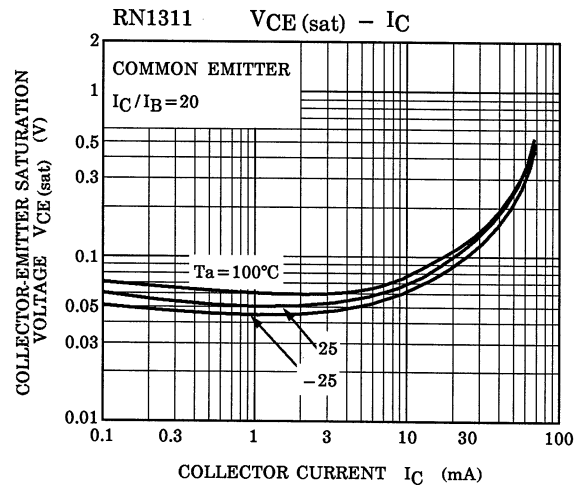
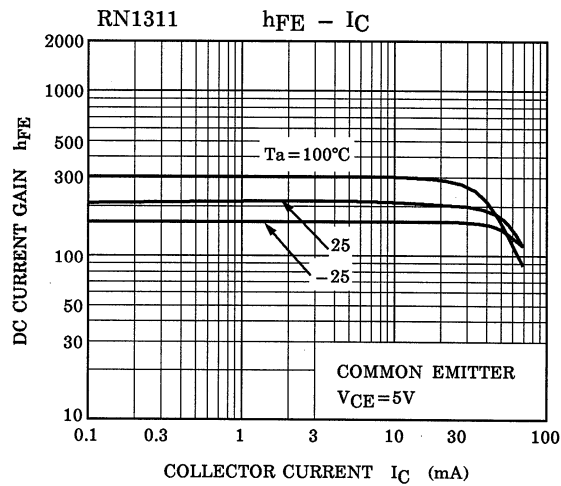
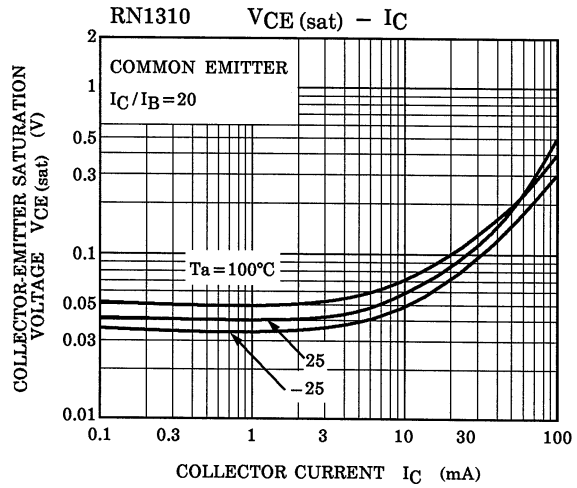
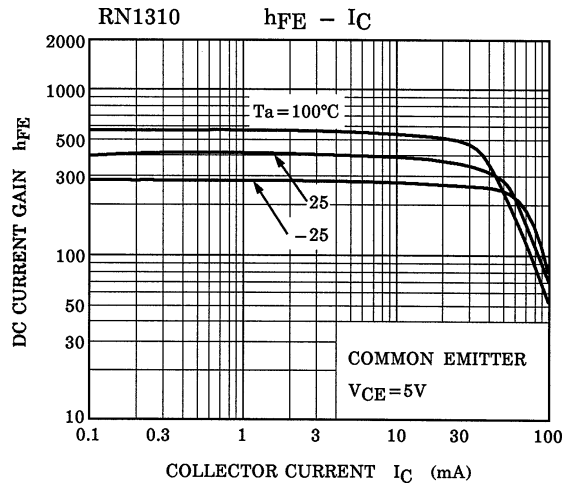
Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

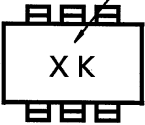
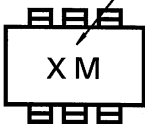
Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	—	V _{CB} = 50V, I _E = 0	—	—	100	nA
Emitter cut-off current		IEBO	—	VEB = 50V, I _C = 0	—	—	100	nA
DC current gain		h _{FE}	—	V _{CE} = 50V, I _C = 1mA	120	—	700	—
Collector-emitter saturation voltage		V _{CE} (sat)	—	I _C = 5mA, I _B = 0.25mA	—	0.1	0.3	V
Translation 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	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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