

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process) (Bias Resistor built-in Transistor)

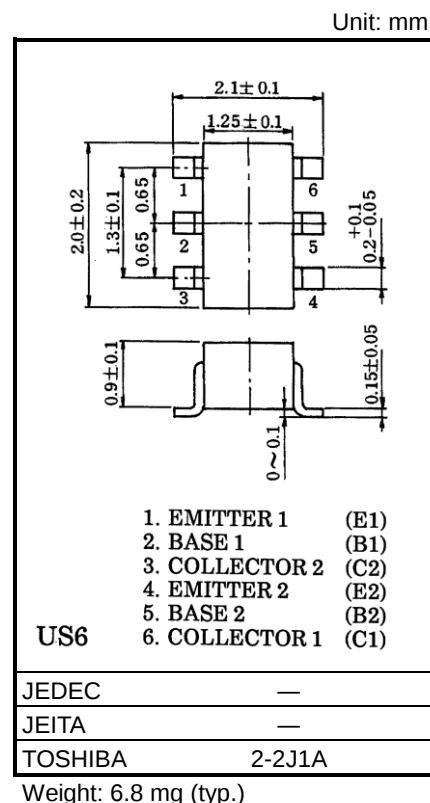
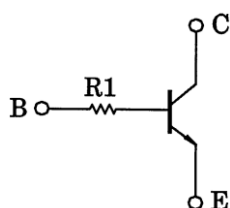
RN1910, RN1911

Switching, Inverter Circuit, Interface Circuit and Driver Circuit

- AEC-Q101 Qualified (Note1)
- Including two devices in US6 (ultra super mini type 6 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process and miniaturize equipment.
- Various resistance values are available to suit various circuit designs.
- Complementary to RN2910 and RN2911

Note1: For detail information, please contact to our sales.

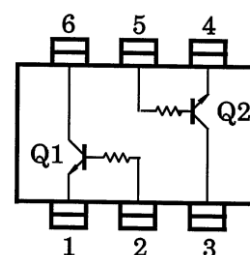
Equivalent Circuit



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

Characterisitic	Symbol	Rating	Unit
Collector-base voltage	VCBO	50	V
Collector-emitter voltage	VCEO	50	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	100	mA
Collector power dissipation	PC*	200	mW
Junction temperature	Tj	150	°C
Storage temperature range	Tstg	-55 to150	°C

Equivalent Circuit (Top View)



Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

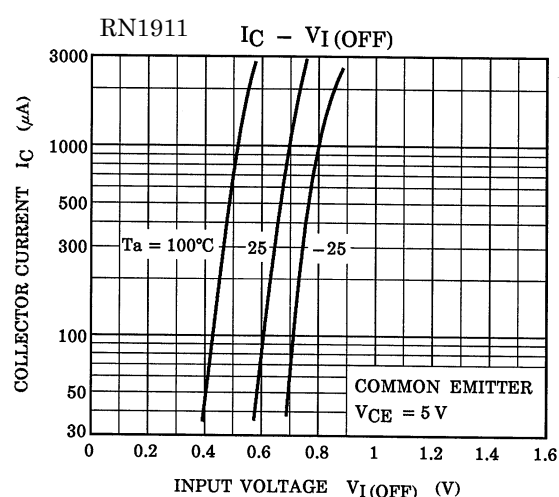
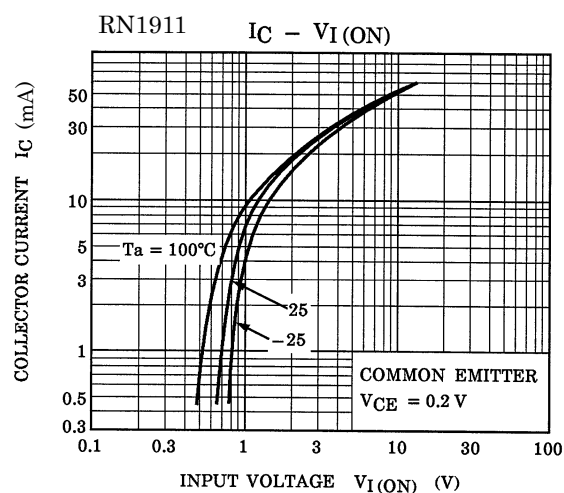
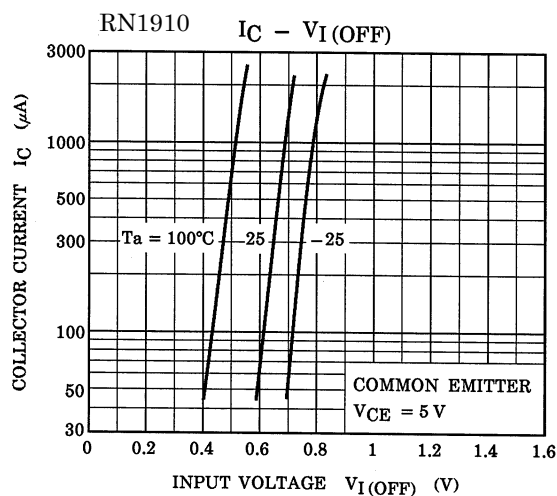
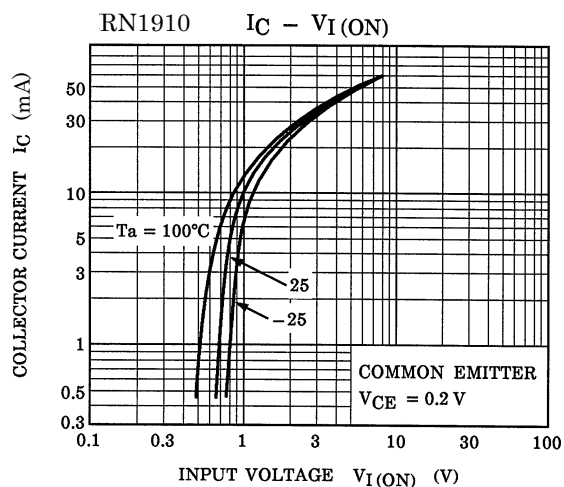
*: Total rating

Start of commercial production
1990-12

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

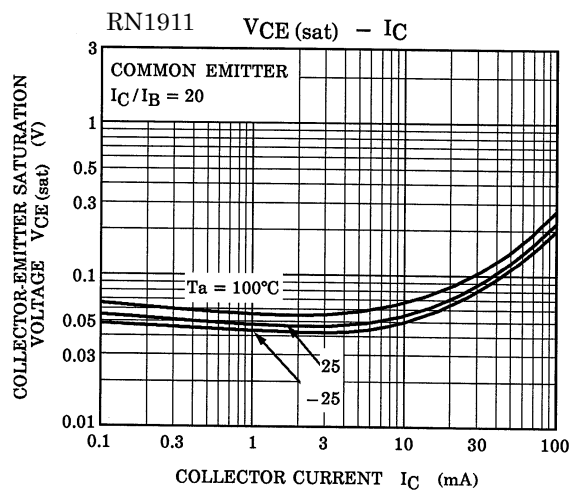
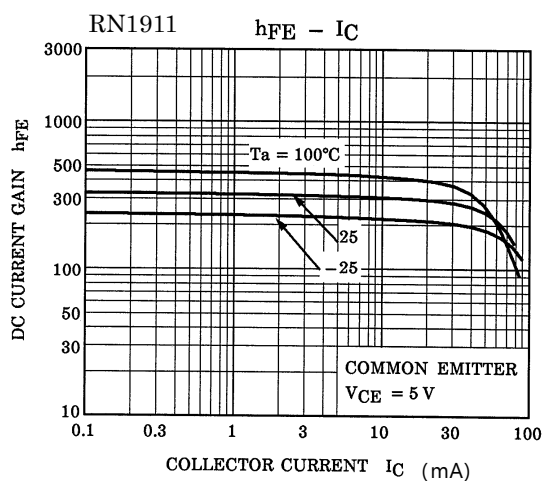
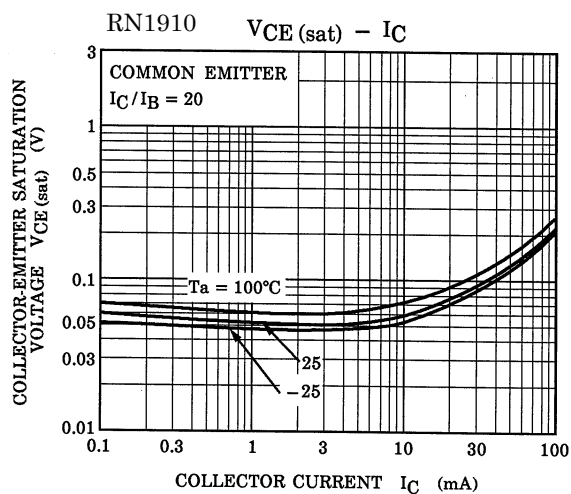
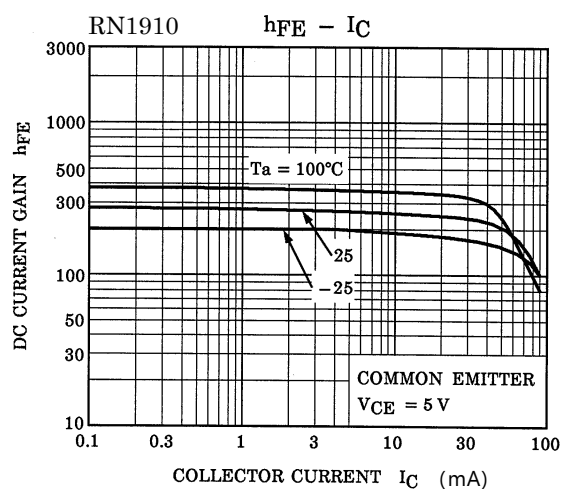
Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 50 V, I _E = 0 mA	—	—	100	nA
Emitter cut-off current		IEBO	V _{EB} = 5 V, I _C = 0 mA	—	—	100	nA
DC current gain		h _{FE}	V _{CE} = 5 V, I _C = 1 mA	120	—	700	—
Collector-emitter saturation voltage		V _{CE (sat)}	I _C = 5 mA, I _B = 0.25 mA	—	0.1	0.3	V
Transition frequency		f _T	V _{CE} = 10 V, I _C = 5 mA	—	250	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0 V, f = 1 MHz	—	3	6	pF
Input resistor	RN1910	R1	—	3.29	4.7	6.11	kΩ
	RN1911			7	10	13	

Characteristics Curves (Q1, Q2 Common)



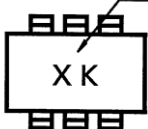
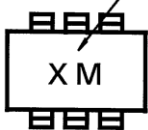
The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Characteristics Curves (Q1, Q2 Common)



The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Marking

Part No.	Marking
RN1910	Part No.(abbreviation code) 
RN1911	Part No.(abbreviation code) 

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