

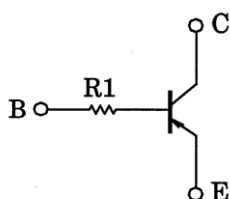
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process) (Bias Resistor built-in Transistor)

RN2510, RN2511

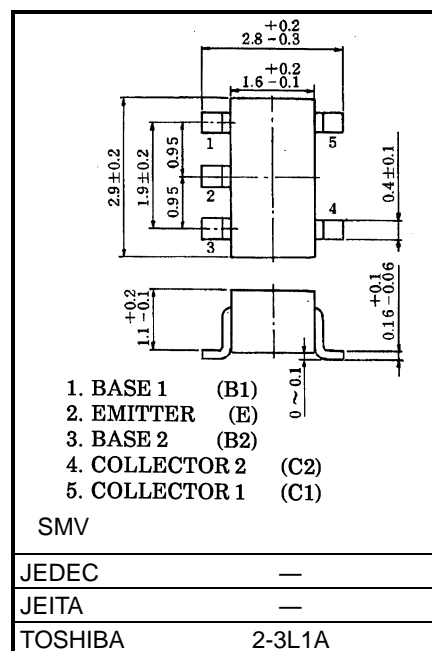
Switching, Inverter Circuit,
Interface Circuit and Driver Circuit

- Including two devices in SMV (super mini type with 5 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 RN1510 to RN1511

Equivalent Circuit



Unit: mm

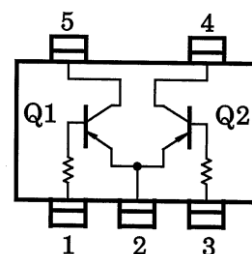


Weight: 14 mg (typ.)

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

Characteristics	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*	300	mW
Junction temperature	Tj	150	°C
Storage temperature range	Tstg	-55 to 150	°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).

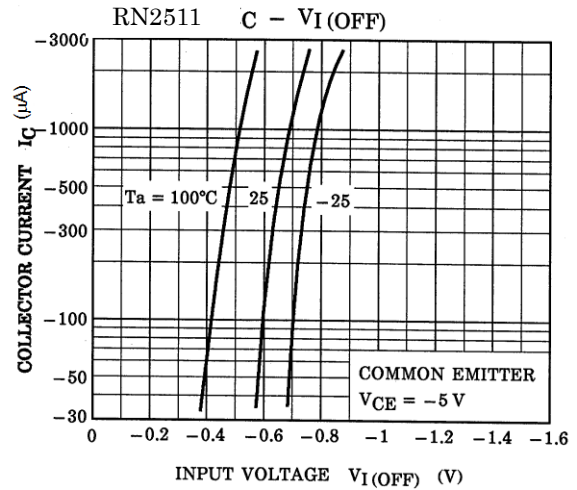
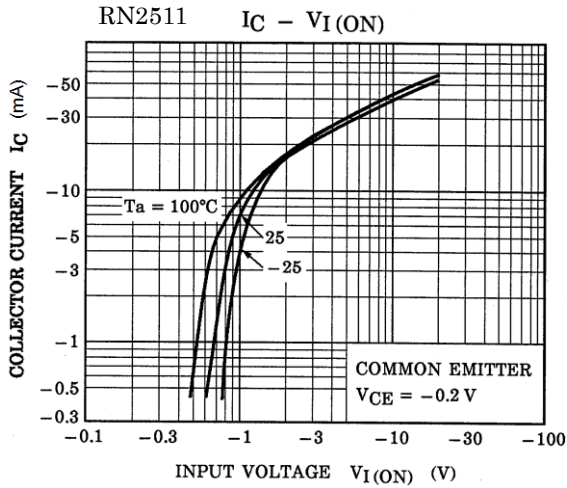
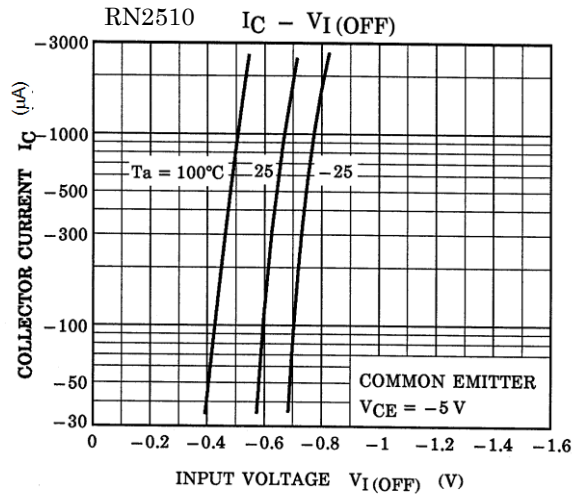
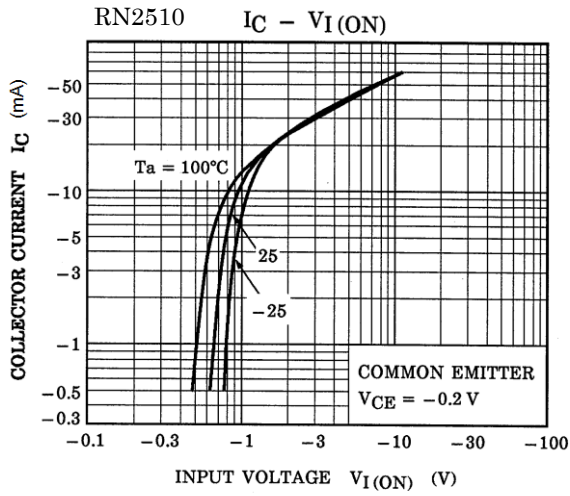
* Total rating

Start of commercial production
1988-10

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

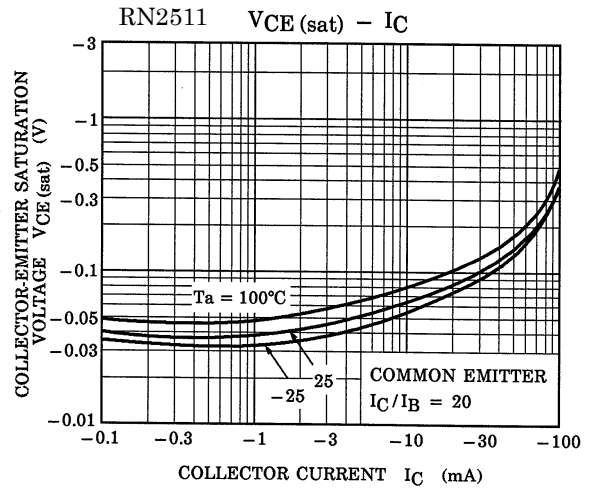
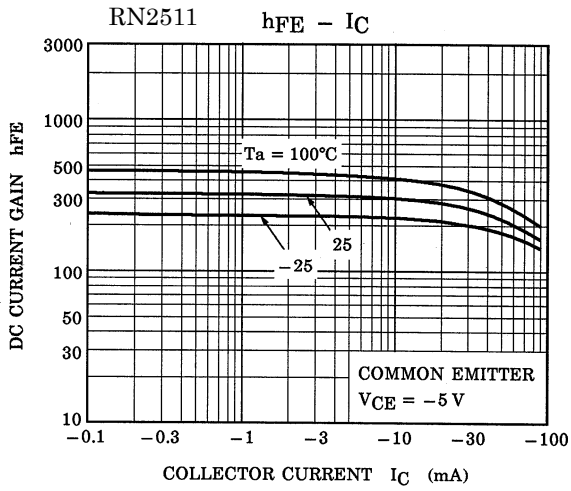
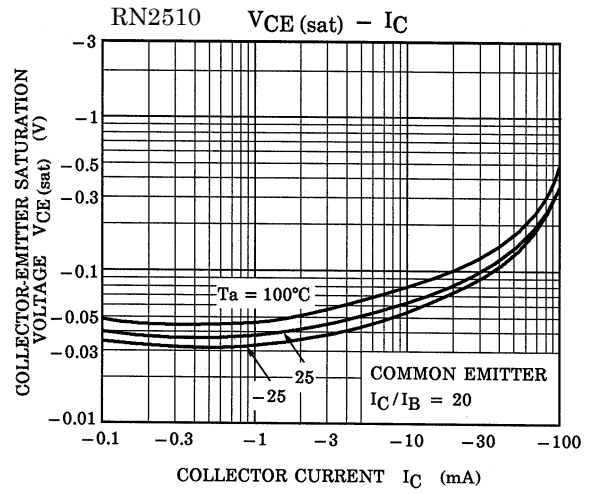
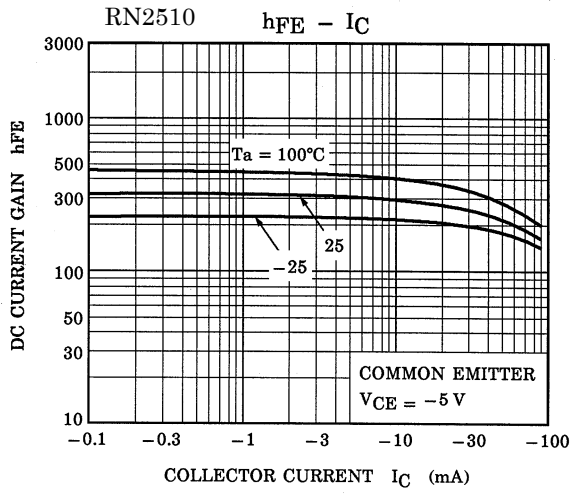
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Collector cut-off current	ICBO	V _{CB} = -50 V, I _E = 0 mA	—	—	-100	nA	
Emitter cut-off current	IEBO	V _{EB} = -5 V, I _C = 0 mA	—	—	-100	nA	
DC current gain	h _{FE}	V _{CE} = -5 V, I _C = -1 mA	120	—	400	—	
Collector-emitter saturation voltage	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	—	200	—	MHz	
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0 mA, f = 1 MHz	—	3	6	pF	
Input resistance	RN2510	R ₁	—	3.29	4.7	6.11	kΩ
	RN2511			7	10	13	

Characteristics Curves(Q1, Q2 Common)



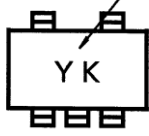
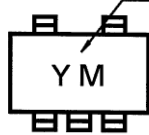
The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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
RN2510	<p data-bbox="603 315 871 342">Part No.(abbreviation code)</p> 
RN2511	<p data-bbox="603 544 871 571">Part No.(abbreviation code)</p> 

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