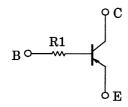
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

# RN2210,RN2211

Switching, Inverter Circuit, Interface Circuit And Driver Circuit Applications

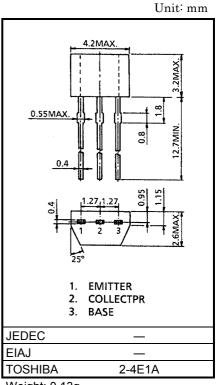
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1210, 1211

### **Equivalent Circuit**



#### **Maximum Ratings (Ta = 25°C)**

Characterisstic	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	Ic	-100	mA
Collector power dissipation	PC	300	mW
Junction temperature	Tj	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C



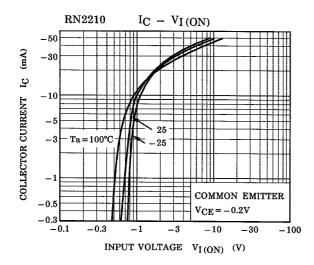
Weight: 0.13g

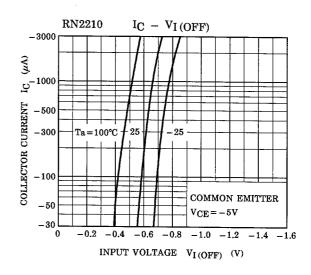


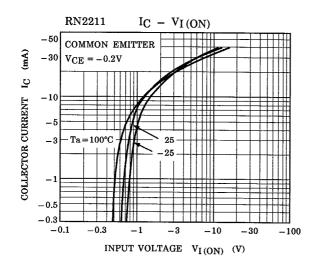
## Electrical Characteristics (Ta = 25°C)

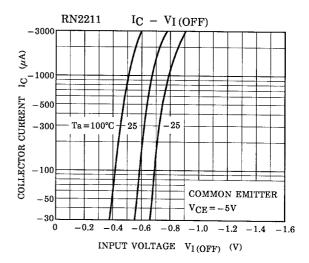
Characteristic		Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current		I <sub>CBO</sub>	_	$V_{CB} = -50V$ , $I_E = 0$	_	_	-100	nA
Emitter cut-off current		I <sub>EBO</sub>	_	$V_{EB} = -5V, I_C = 0$	_	_	-100	nA
DC current gain		h <sub>FE</sub>	_	$V_{CE} = -5V, I_{C} = -1mA$	120	_	400	1
Collector-emitter saturation voltage		V <sub>CE</sub> (sat)	_	$I_C = -5mA$ , $I_B = -0.25mA$	_	-0.1	-0.3	V
Translation frequency		f <sub>T</sub>	_	$V_{CE} = -10V, I_{C} = -5mA$	_	200	_	MHz
Collector output capacitance		C <sub>ob</sub>	_	$V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$	_	3	6	pF
Input resistor	RN2210	- R1	_	_	3.29	4.7	6.11	kΩ
	RN2211				7	10	13	

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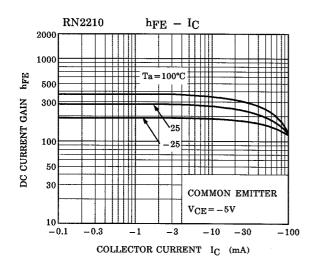


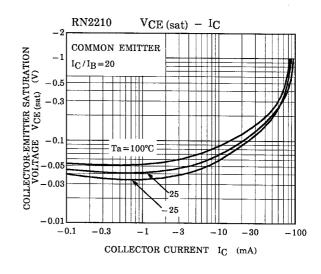


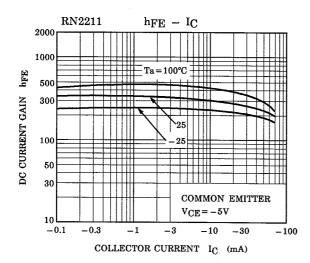


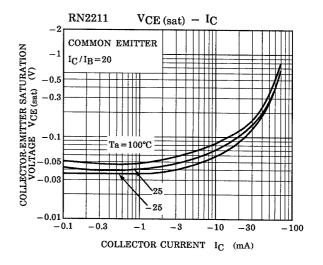


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