

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

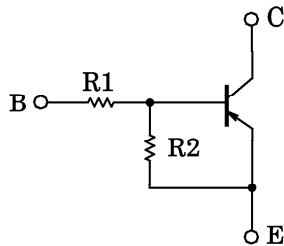
# RN2107, RN2108, RN2109

Unit in mm

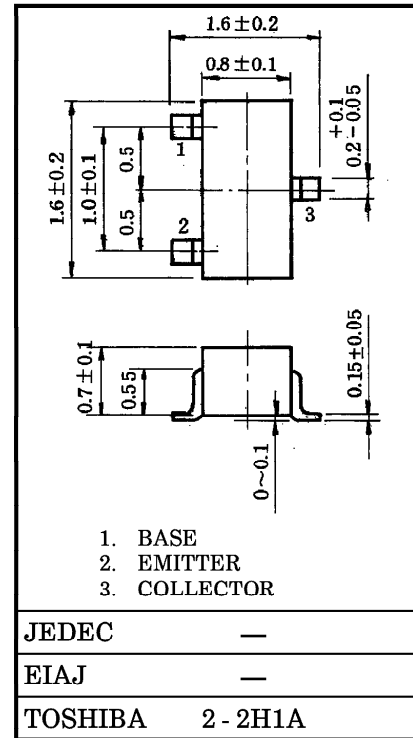
SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT  
AND DRIVER CIRCUIT APPLICATIONS.

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1107~RN1109

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R1 (kΩ)	R2 (kΩ)
RN2107	10	47
RN2108	22	47
RN2109	47	22



Weight : 2.4mg

MAXIMUM RATINGS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2107~2109	V <sub>CB0</sub>	-50	V
Collector-Emitter Voltage		V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	RN2107	V <sub>EBO</sub>	-6	V
	RN2108		-7	
	RN2109		-15	
Collector Current	RN2107~2109	I <sub>C</sub>	-100	mA
Collector Power Dissipation		P <sub>C*</sub>	100	mW
Junction Temperature		T <sub>j</sub>	150	°C
Storage Temperature Range		T <sub>stg</sub>	-55~150	°C

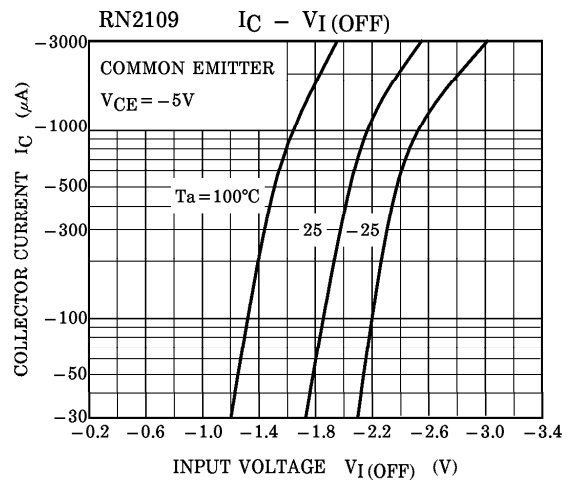
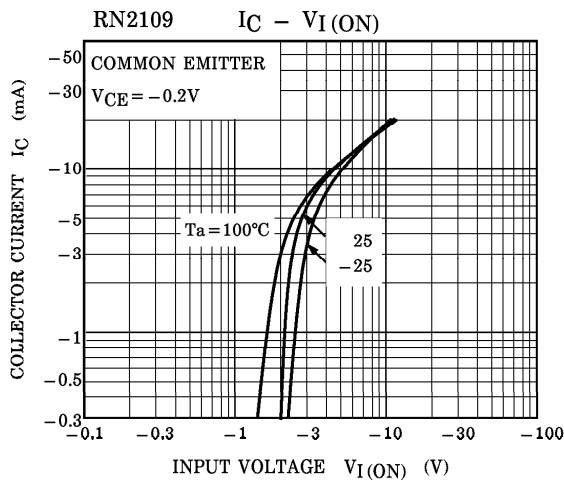
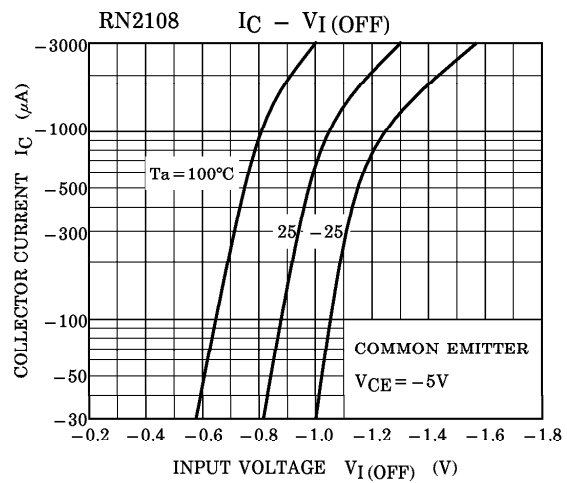
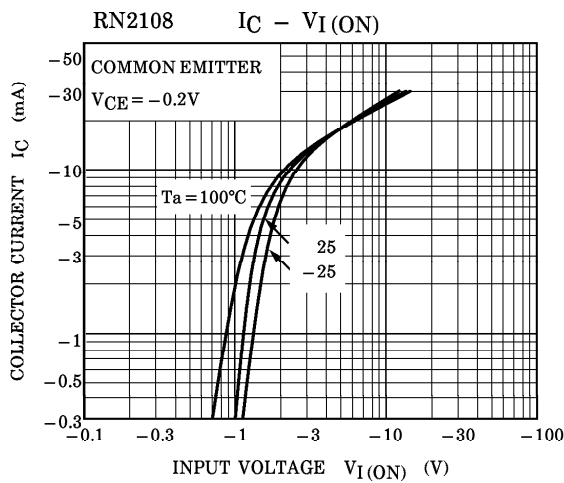
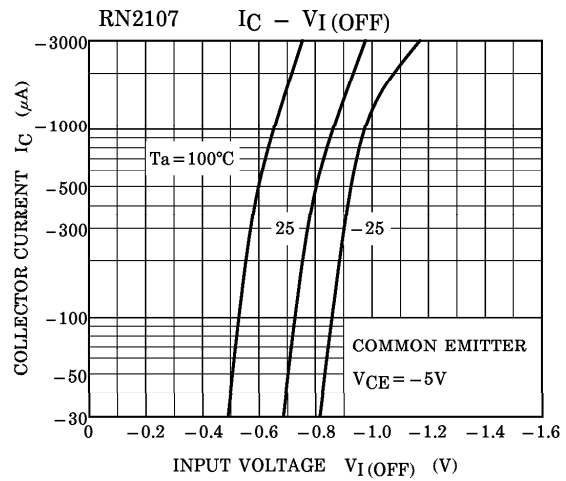
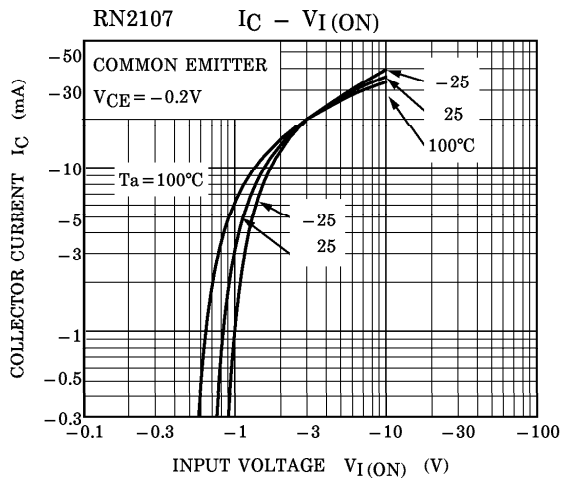
\* : Total Rating

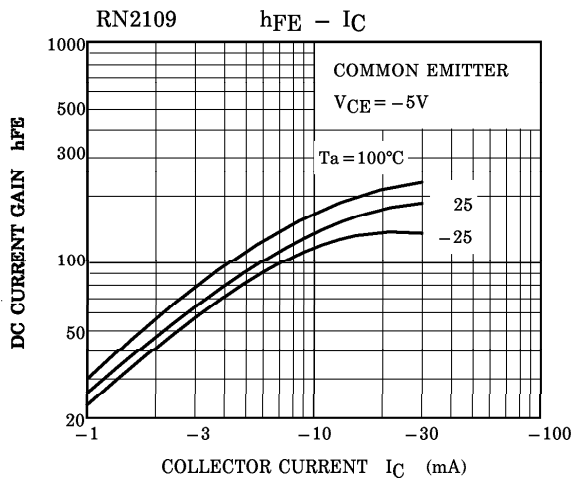
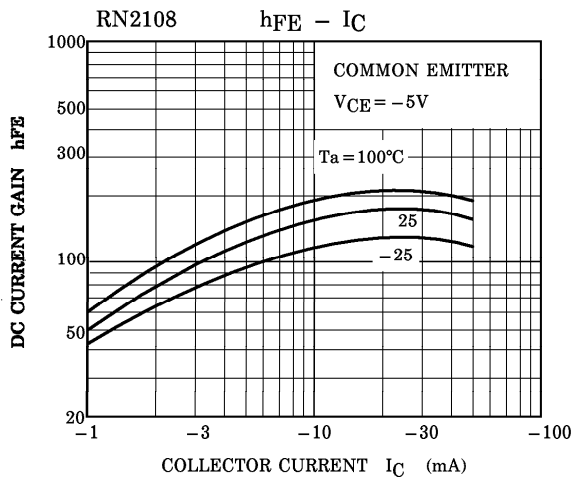
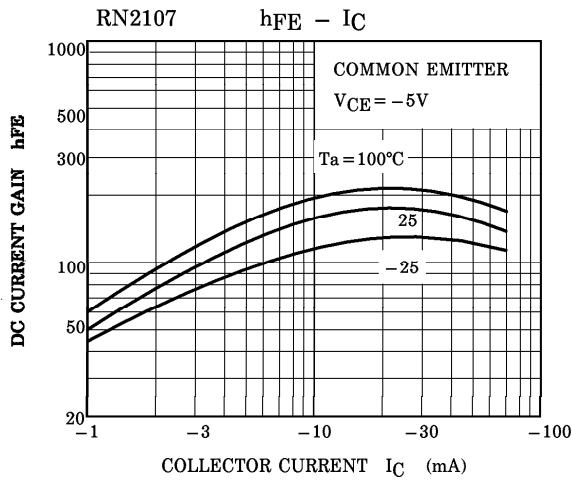
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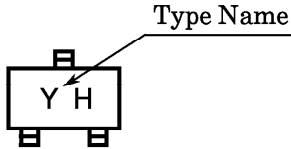
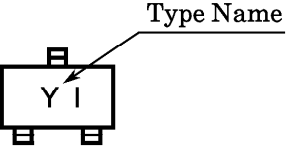
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## ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	RN2107~2109	ICBO	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0	—	—	-100	nA	
		ICEO	V <sub>CE</sub> = -50V, I <sub>B</sub> = 0	—	—	-500	nA	
Emitter Cut-off Current	RN2107	IEBO	V <sub>EB</sub> = -6V, I <sub>C</sub> = 0	-0.081	—	-0.15	mA	
	RN2108			V <sub>EB</sub> = -7V, I <sub>C</sub> = 0	-0.078	—		-0.145
	RN2109			V <sub>EB</sub> = -15V, I <sub>C</sub> = 0	-0.167	—		-0.311
DC Current Gain	RN2107	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	80	—	—		
	RN2108			80	—	—		
	RN2109			70	—	—		
Collector-Emitter Saturation Voltage	RN2107~2109	V <sub>CE(sat)</sub>	I <sub>C</sub> = -5mA, I <sub>B</sub> = -0.25mA	—	-0.1	-0.3	V	
Input Voltage (ON)	RN2107	V <sub>I(ON)</sub>	V <sub>CE</sub> = -0.2V, I <sub>C</sub> = -5mA	-0.7	—	-1.8	V	
	RN2108			-1.0	—	-2.6		
	RN2109			-2.2	—	-5.8		
Input Voltage (OFF)	RN2107	V <sub>I(OFF)</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -0.1mA	-0.5	—	-1.0	V	
	RN2108			-0.6	—	-1.16		
	RN2109			-1.5	—	-2.6		
Transition Frequency	RN2107~2109	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -5mA	—	200	—	MHz	
Collector Output Capacitance	RN2107~2109	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	3	6	pF	
Input Resistor	RN2107	R1		7	10	13	kΩ	
	RN2108			15.4	22	28.6		
	RN2109			32.9	47	61.1		
Resistor Ratio	RN2107	R1 / R2		0.191	0.213	0.232		
	RN2108			0.421	0.468	0.515		
	RN2109			1.92	2.14	2.35		





TYPE NAME	MARKING
RN2107	
RN2108	
RN2109	