

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

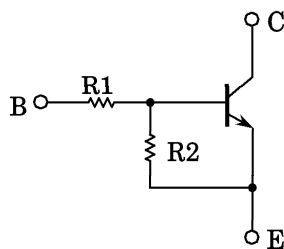
RN1107, RN1108, RN1109

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 RN2107~2109

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE NO.	R1 (kΩ)	R2 (kΩ)
RN1107	10	47
RN1108	22	47
RN1109	47	22

1. BASE	
2. EMITTER	
3. COLLECTOR	
SSM	
JEDEC	—
EIAJ	—
TOSHIBA	2-2H1A

Weight : 2.4mg

MAXIMUM RATINGS (Ta = 25°C)

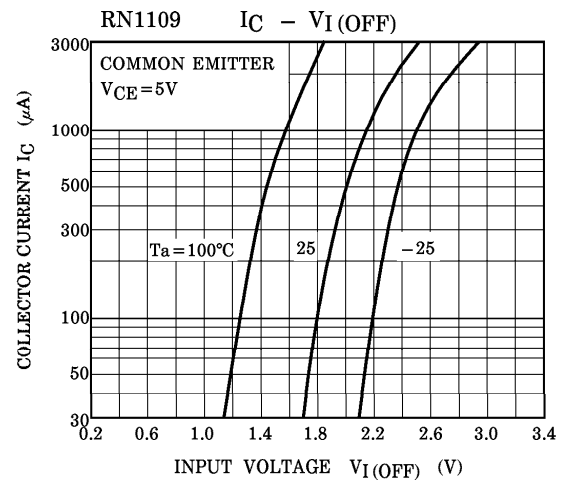
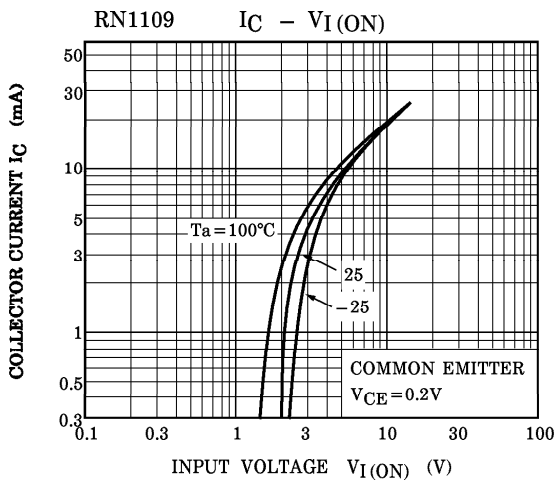
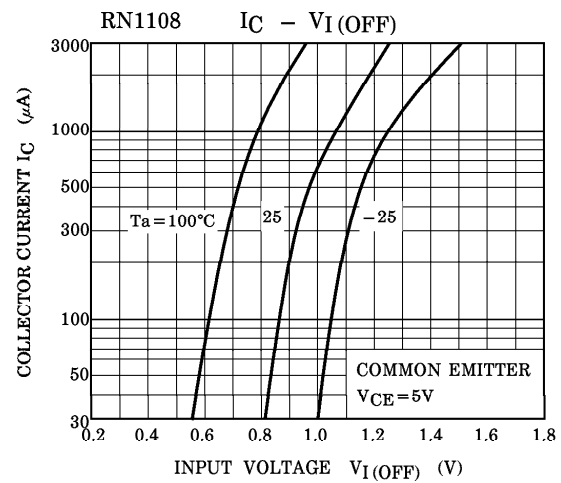
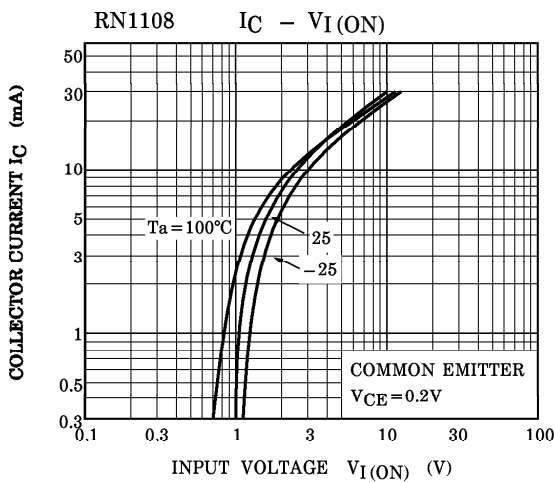
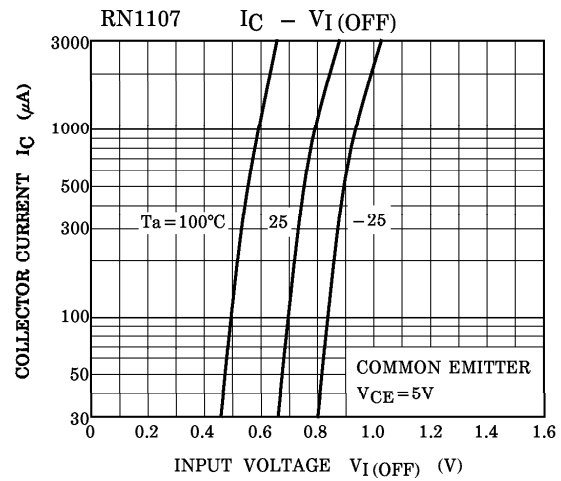
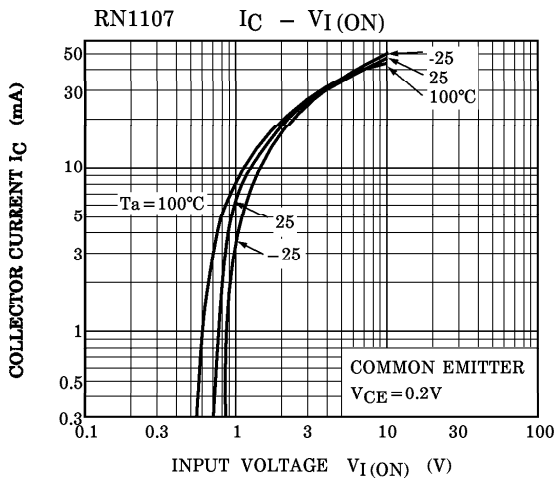
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN1107~1109	V _{CBO}	50	V
Collector-Emitter Voltage	RN1107~1109	V _{CEO}	50	V
Emitter-Base Voltage	RN1107	V _{EBO}	6	V
	RN1108		7	
	RN1109		15	
Collector Current	RN1107~1109	I _C	100	mA
Collector Power Dissipation	RN1107~1109	P _C	100	mW
Junction Temperature	RN1107~1109	T _j	150	°C
Storage Temperature Range	RN1107~1109	T _{stg}	-55~150	°C

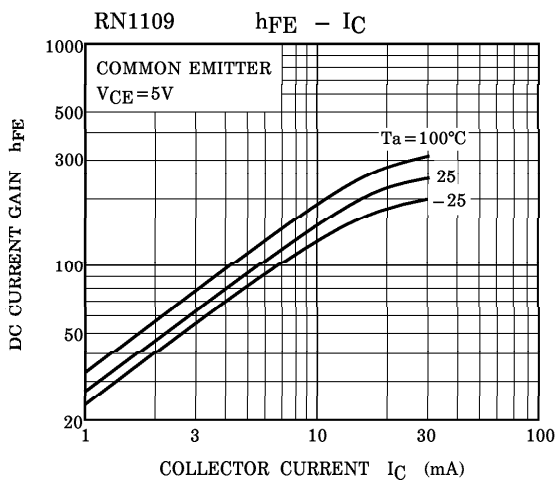
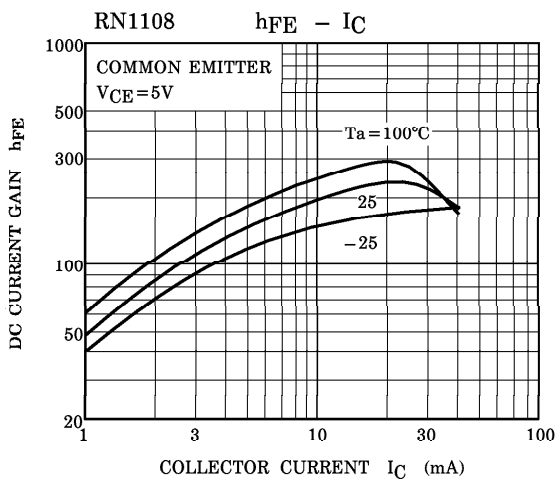
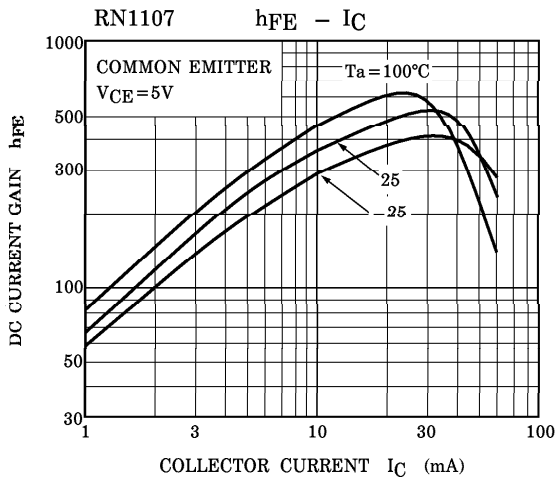
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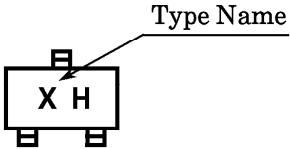
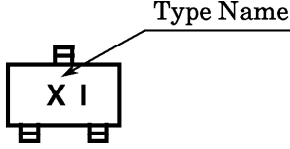
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN1107~1109	ICBO	V _{CB} = 50V, I _E = 0	—	—	100	nA
		ICEO	V _{CE} = 50V, I _B = 0	—	—	500	nA
Emitter Cut-off Current	RN1107	IEBO	V _{EB} = 6V, I _C = 0	0.081	—	0.15	mA
	RN1108			0.078	—	0.145	
	RN1109			0.167	—	0.311	
DC Current Gain	RN1107	h _{FE}	V _{CE} = 5V, I _C = 10mA	80	—	—	
	RN1108			80	—	—	
	RN1109			70	—	—	
Collector-Emitter Saturation Voltage	RN1107~1109	V _{CE(sat)}	I _C = 5mA, I _B = 0.25mA	—	0.1	0.3	V
Input Voltage (ON)	RN1107	V _{I(ON)}	V _{CE} = 0.2V, I _C = 5mA	0.7	—	1.8	V
	RN1108			1.0	—	2.6	
	RN1109			2.2	—	5.8	
Input Voltage (OFF)	RN1107	V _{I(OFF)}	V _{CE} = 5V, I _C = 0.1mA	0.5	—	1.0	V
	RN1108			0.6	—	1.16	
	RN1109			1.5	—	2.6	
Transition Frequency	RN1107~1109	f _T	V _{CE} = 10V, I _C = 5mA	—	250	—	MHz
Collector Output Capacitance	RN1107~1109	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	3	6	pF
Input Resistor	RN1107	R1	—	7	10	13	kΩ
	RN1108			15.4	22	28.6	
	RN1109			32.9	47	61.1	
Resistor Ratio	RN1107	R1/R2	—	0.191	0.213	0.232	
	RN1108			0.421	0.468	0.515	
	RN1109			1.92	2.14	2.35	





TYPE NAME	MARKING
RN1107	
RN1108	
RN1109	