

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

RN2107F, RN2108F, RN2109F

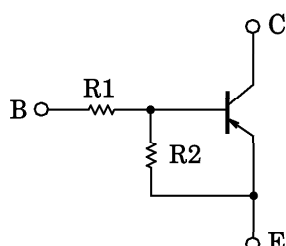
SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT

Unit in mm

AND DRIVER CIRCUIT APPLICATIONS.

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1107F~RN1109F

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R1 (k Ω)	R2 (k Ω)
RN2107F	10	47
RN2108F	22	47
RN2109F	47	22

1. BASE	
2. EMITTER	
3. COLLECTOR	
JEDEC	—
EIAJ	—
TOSHIBA	2-2HA1A

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2107F~2109F	V_{CBO}	-50	V
Collector-Emitter Voltage		V_{CEO}	-50	V
Emitter-Base Voltage	RN2107F	V_{EBO}	-6	V
	RN2108F		-7	
	RN2109F		-15	
Collector Current	RN2107F~2109F	I_C	-100	mA
Collector Power Dissipation		P_C	100	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

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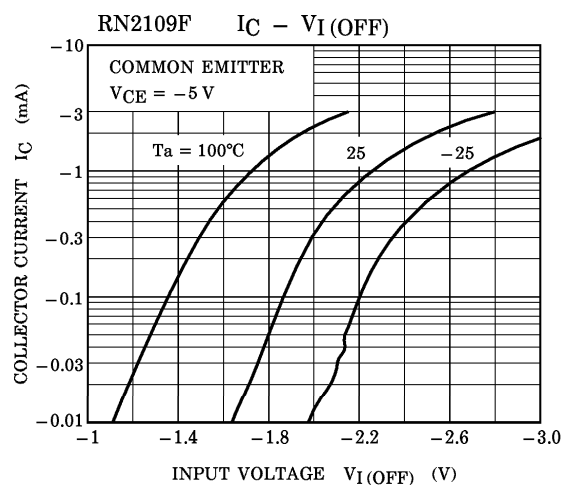
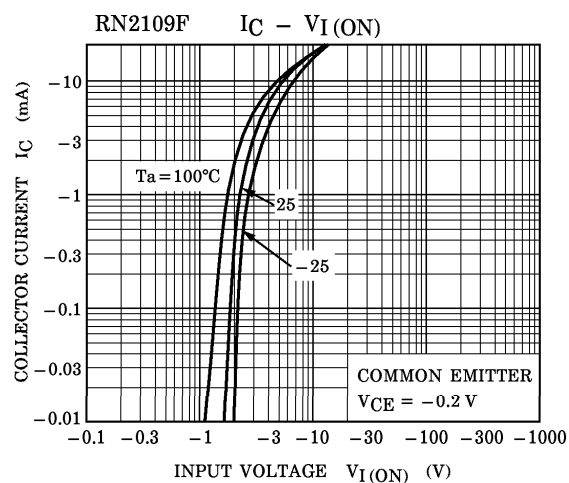
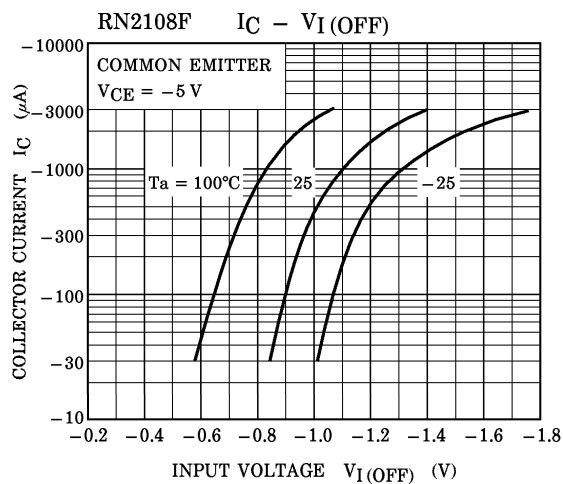
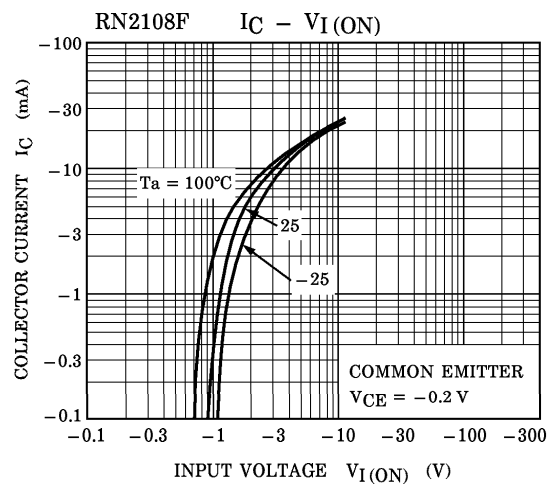
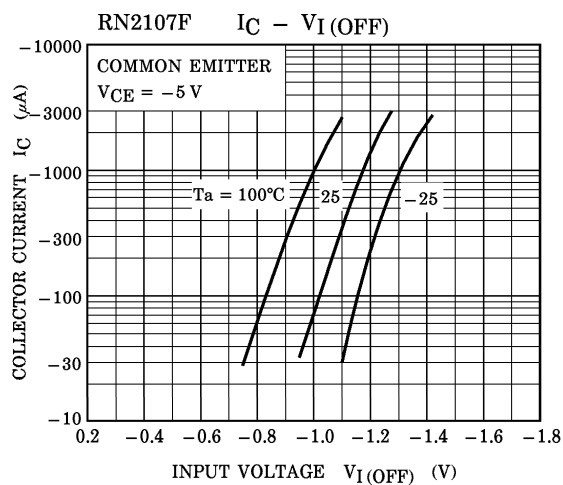
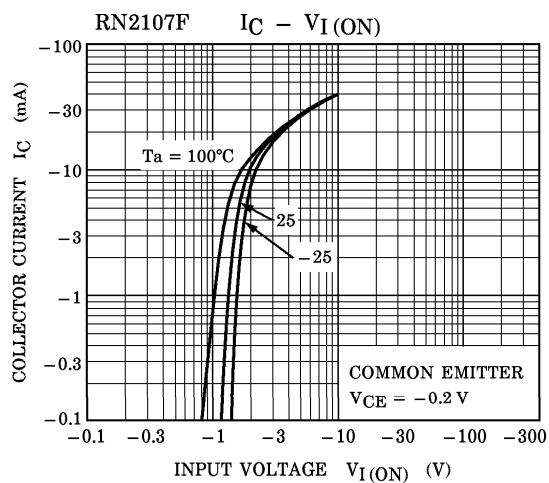
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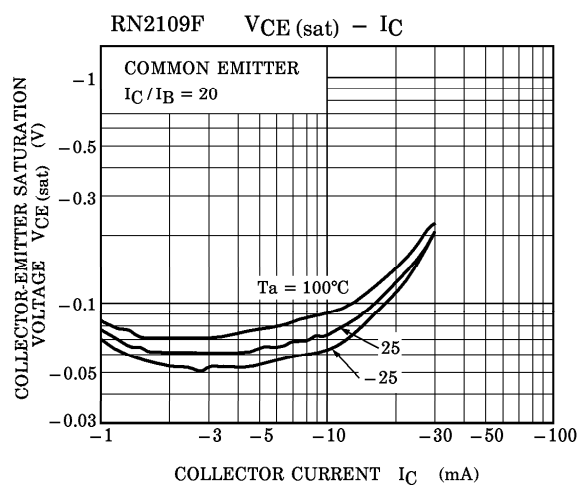
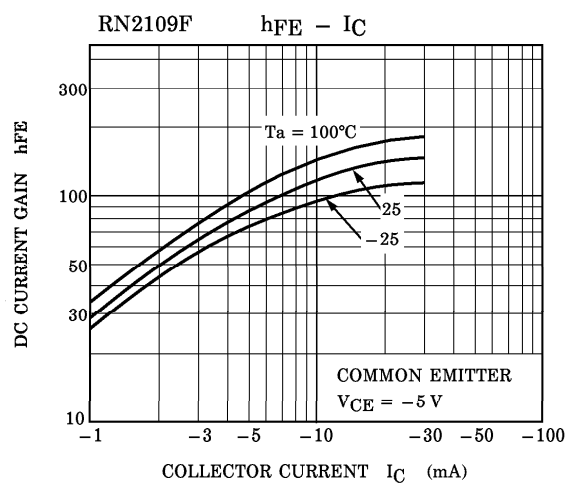
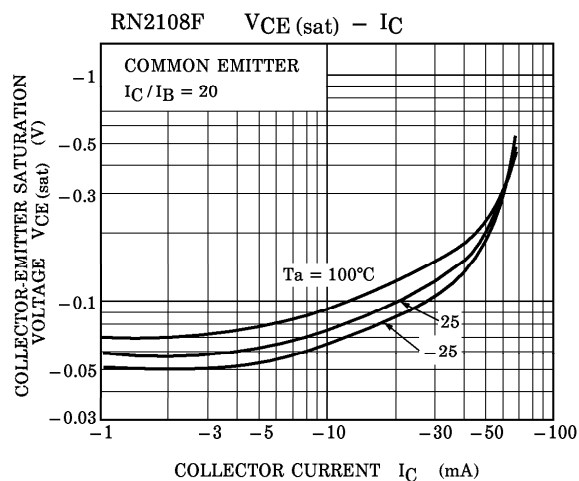
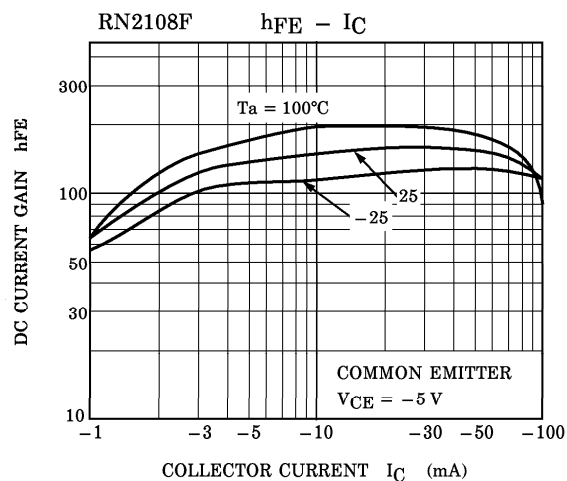
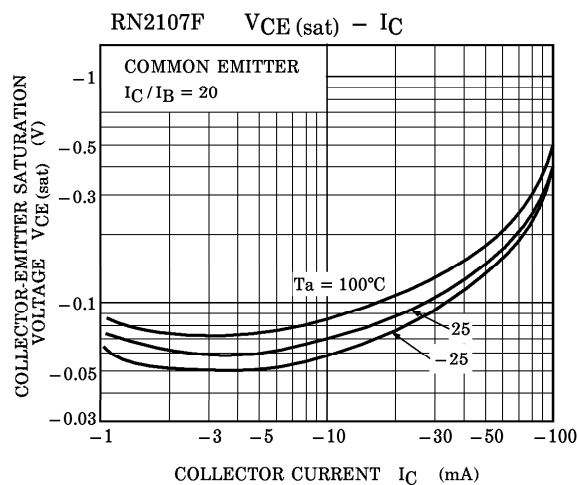
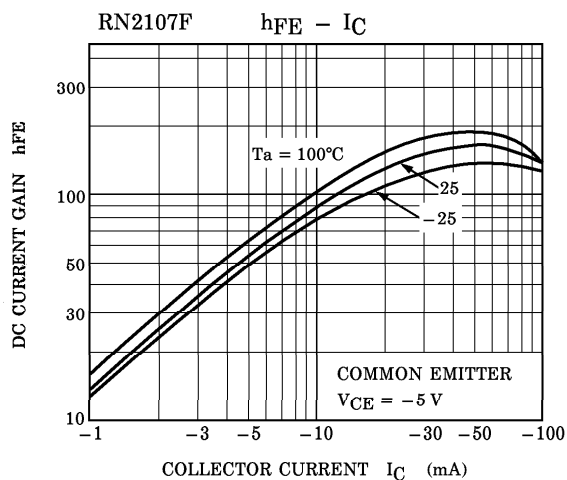
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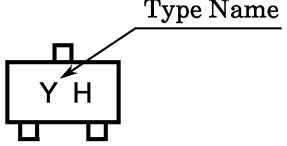
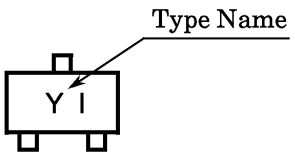
● The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2107F~ 2109F	I_{CBO}	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-100	nA
		I_{CEO}	$V_{CE} = -50\text{ V}, I_B = 0$	—	—	-500	nA
Emitter Cut-off Current	RN2107F	I_{EBO}	$V_{EB} = -6\text{ V}, I_C = 0$	-0.081	—	-0.15	mA
	RN2108F		$V_{EB} = -7\text{ V}, I_C = 0$	-0.078	—	-0.145	
	RN2109F		$V_{EB} = -15\text{ V}, I_C = 0$	-0.167	—	-0.311	
DC Current Gain	RN2107F	h_{FE}	$V_{CE} = -5\text{ V},$ $I_C = -10\text{ mA}$	80	—	—	
	RN2108F			80	—	—	
	RN2109F			70	—	—	
Collector-Emitter Saturation Voltage	RN2107F~ 2109F	$V_{CE(sat)}$	$I_C = -5\text{ mA},$ $I_B = -0.25\text{ mA}$	—	-0.1	-0.3	V
Input Voltage (ON)	RN2107F	$V_{I(ON)}$	$V_{CE} = -0.2\text{ V},$ $I_C = -5\text{ mA}$	-0.7	—	-1.8	V
	RN2108F			-1.0	—	-2.6	
	RN2109F			-2.2	—	-5.8	
Input Voltage (OFF)	RN2107F	$V_{I(OFF)}$	$V_{CE} = -5\text{ V},$ $I_C = -0.1\text{ mA}$	-0.5	—	-1.0	V
	RN2108F			-0.6	—	-1.16	
	RN2109F			-1.5	—	-2.6	
Transition Frequency	RN2107F~ 2109F	f_T	$V_{CE} = -10\text{ V},$ $I_C = -5\text{ mA}$	—	200	—	MHz
Collector Output Capacitance	RN2107F~ 2109F	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	3	6	pF
Input Resistor	RN2107F	R1	—	7	10	13	kΩ
	RN2108F			15.4	22	28.6	
	RN2109F			32.9	47	61.1	
Resistor Ratio	RN2107F	R1 / R2	—	0.191	0.213	0.232	
	RN2108F			0.421	0.468	0.515	
	RN2109F			1.92	2.14	2.35	





TYPE NAME	MARKING
RN2107F	
RN2108F	
RN2109F	