

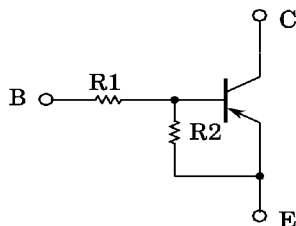
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

**RN2101F, RN2102F, RN2103F
RN2104F, RN2105F, RN2106F**SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT
AND DRIVER CIRCUIT APPLICATIONS.

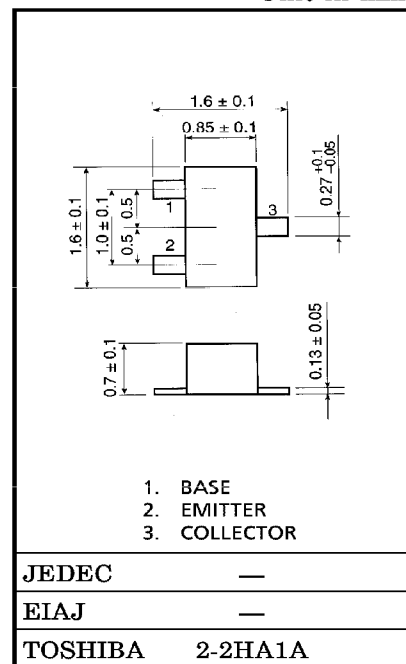
Unit in mm

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1101F~RN1106F

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R1 (k Ω)	R2 (k Ω)
RN2101F	4.7	4.7
RN2102F	10	10
RN2103F	22	22
RN2104F	47	47
RN2105F	2.2	47
RN2106F	4.7	47



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2101F~2106F	V _{CB0}	−50	V
Collector-Emitter Voltage		V _{CEO}	−50	V
Emitter-Base Voltage	RN2101F~2104F	V _{EB0}	−10	V
	RN2105F, 2106F		−5	
Collector Current	RN2101F~2106F	I _C	−100	mA
Collector Power Dissipation		P _C	100	mW
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	−55~150	°C

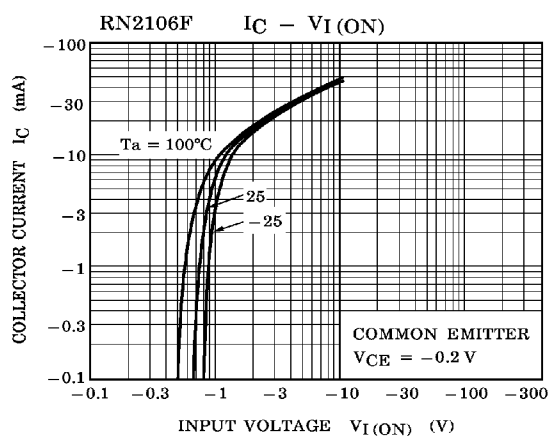
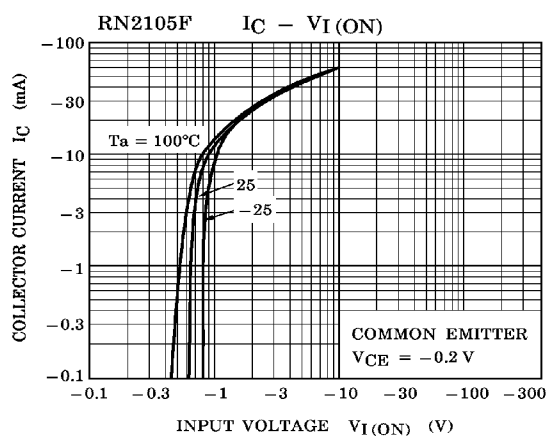
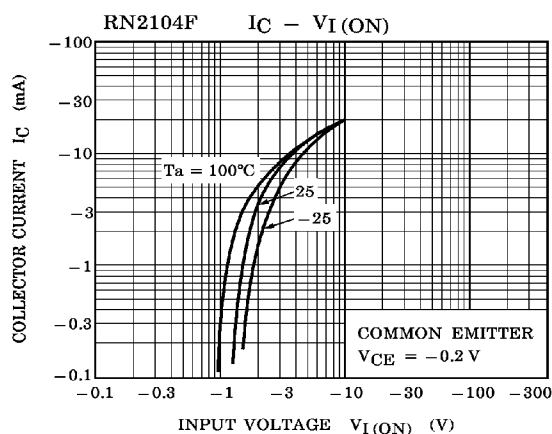
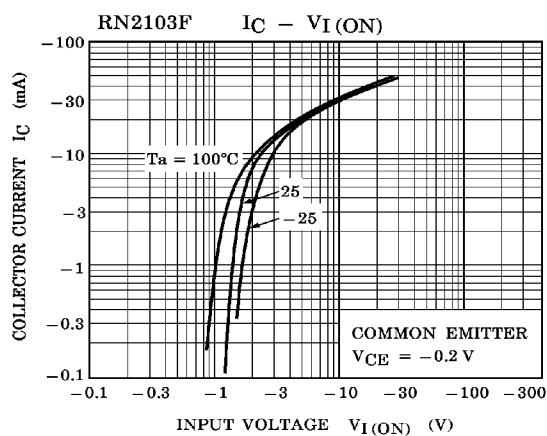
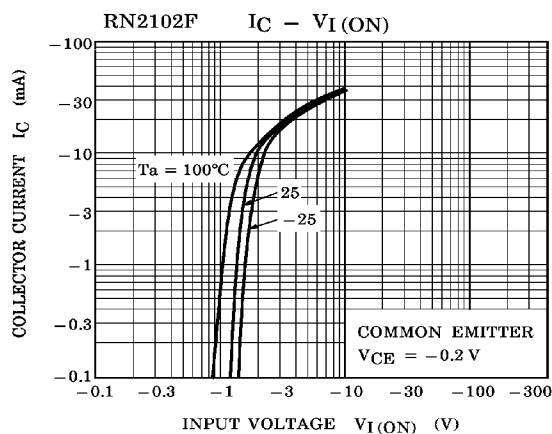
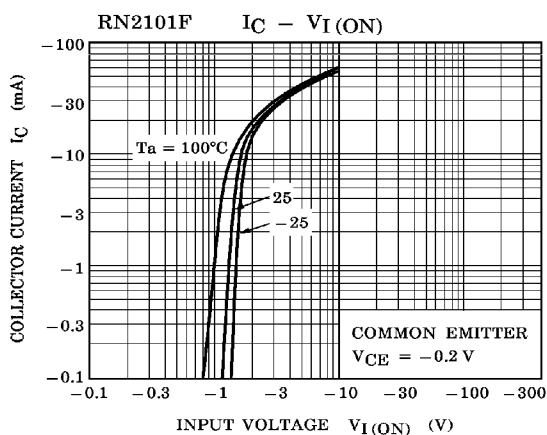
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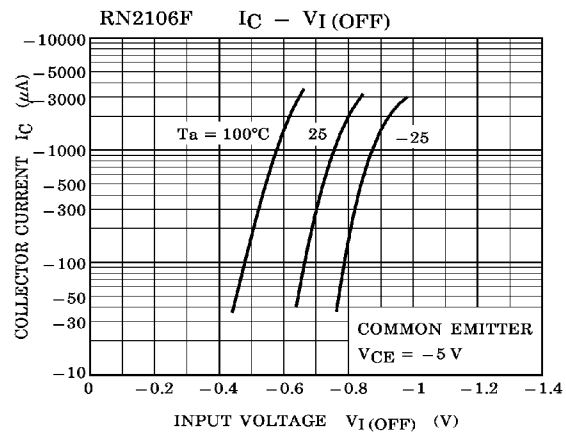
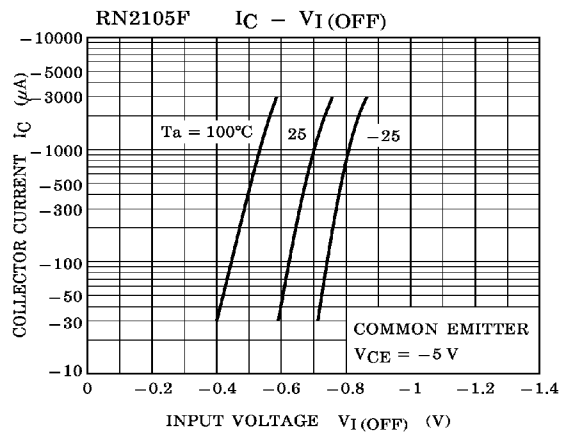
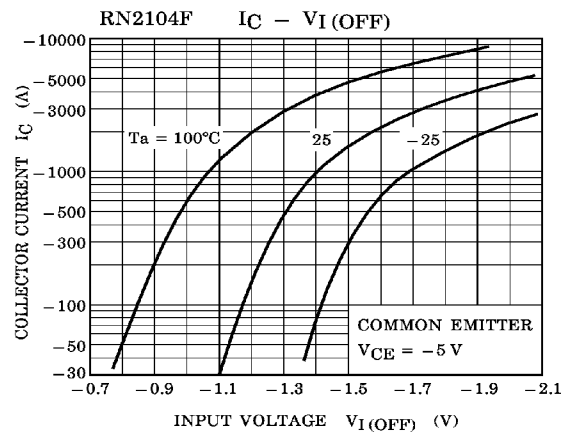
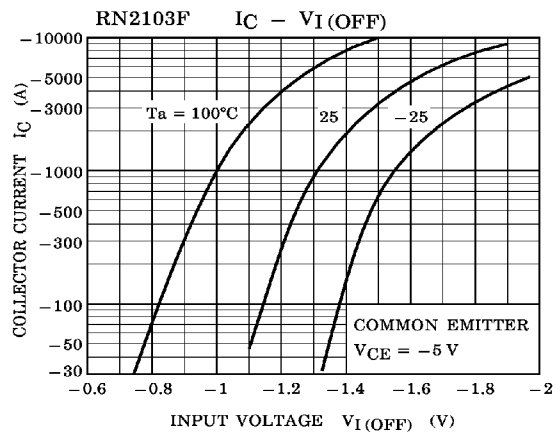
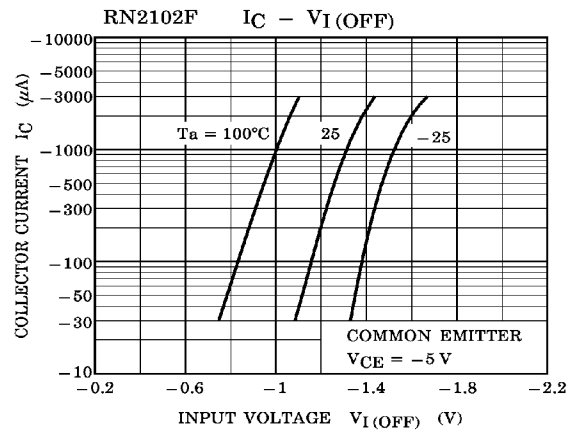
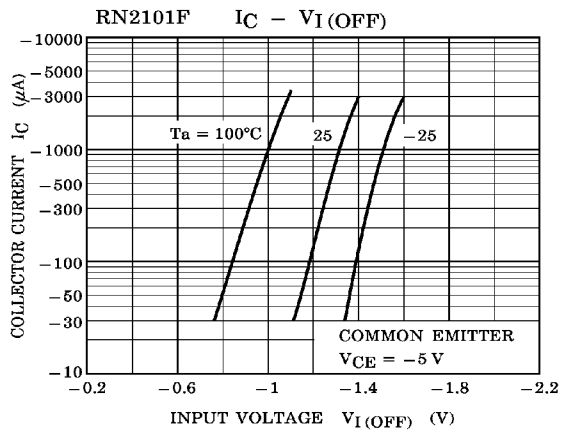
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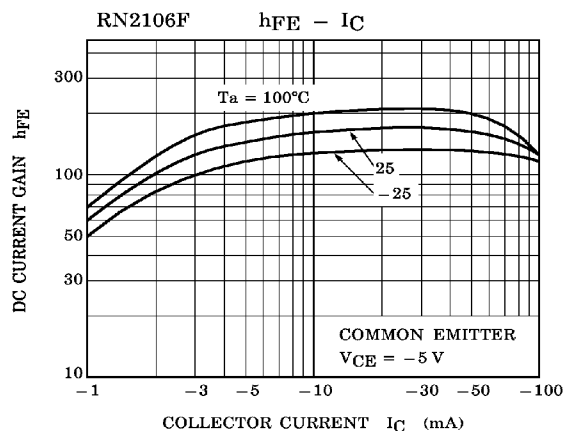
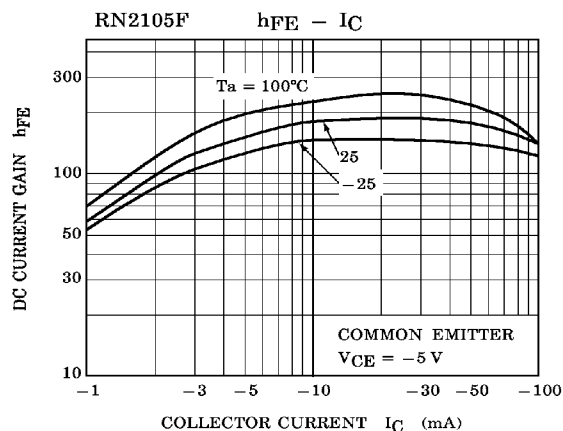
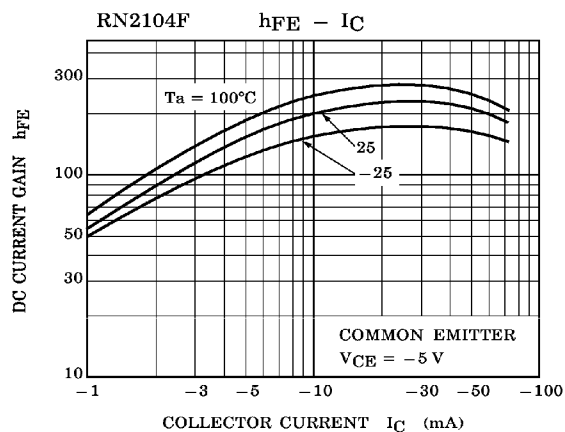
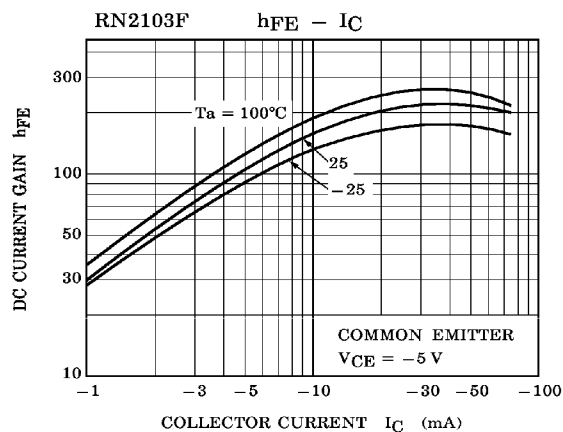
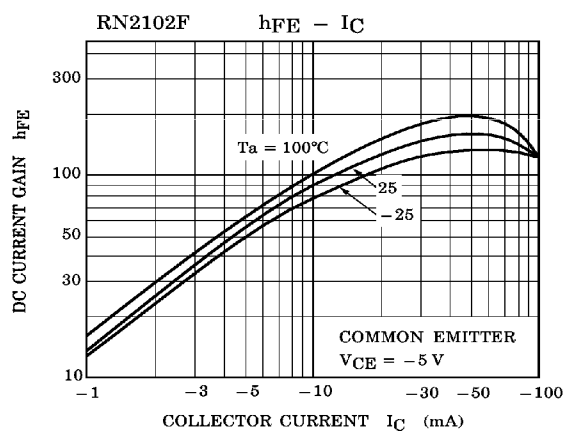
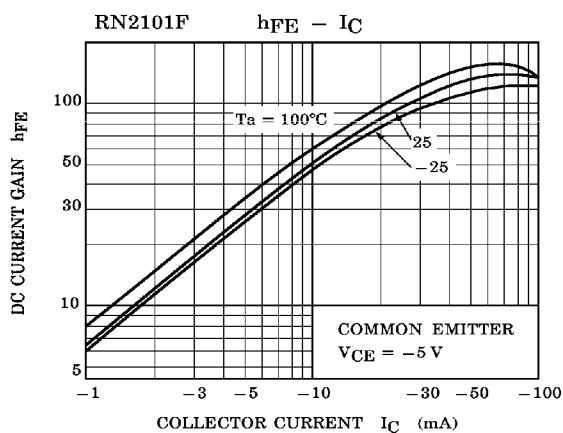
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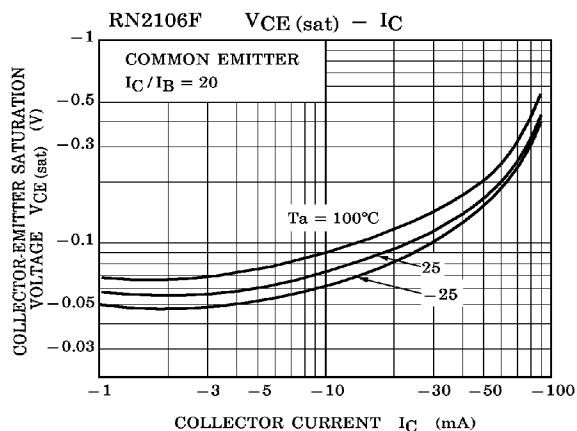
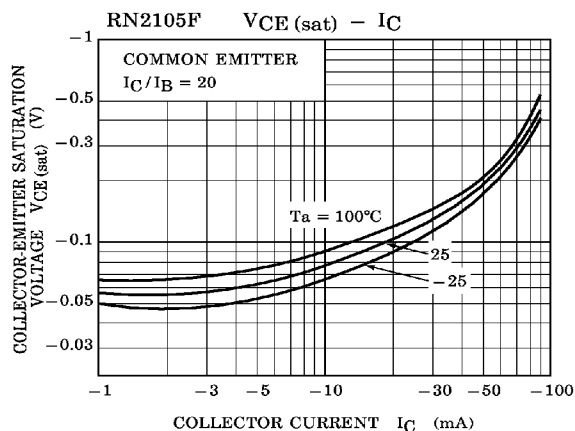
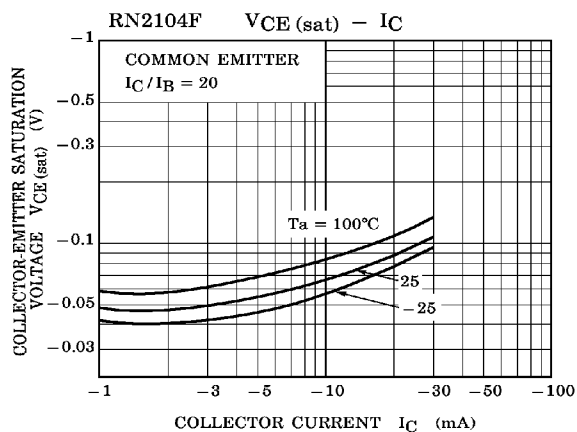
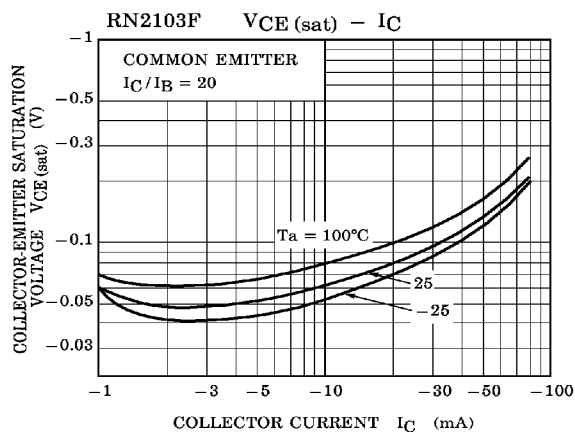
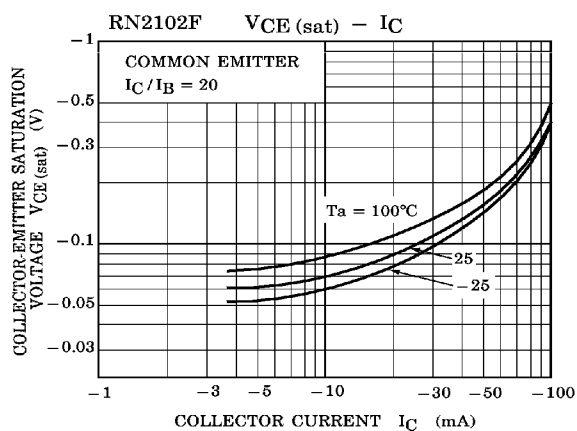
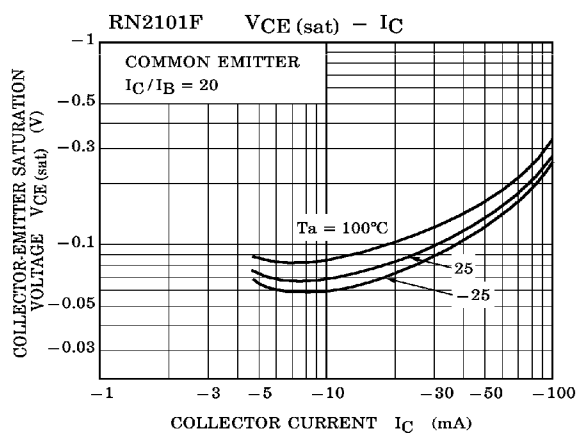
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

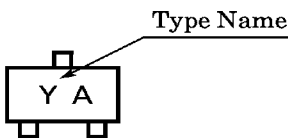
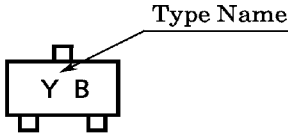
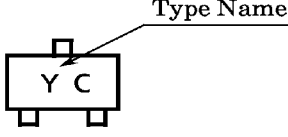
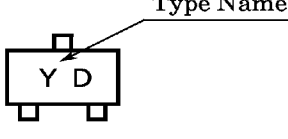
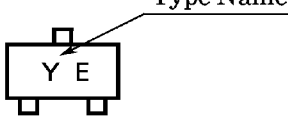
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2101F~2106F	ICBO	V _{CB} = -50 V, I _E = 0	—	—	-100	nA
		ICEO	V _{CE} = -50 V, I _B = 0	—	—	-500	
Emitter Cut-off Current	RN2101F	I _{EBO}	V _{EB} = -10 V, I _C = 0	-0.82	—	-1.52	mA
	RN2102F			-0.38	—	-0.71	
	RN2103F			-0.17	—	-0.33	
	RN2104F			-0.082	—	-0.15	
	RN2105F	I _{EBO}	V _{EB} = -5 V, I _C = 0	-0.078	—	-0.145	
	RN2106F			-0.074	—	-0.138	
DC Current Gain	RN2101F	h _{FE}	V _{CE} = -5 V I _C = -10 mA	30	—	—	
	RN2102F			50	—	—	
	RN2103F			70	—	—	
	RN2104F			80	—	—	
	RN2105F			80	—	—	
	RN2106F			80	—	—	
Collector-Emitter Saturation Voltage	RN2101F~2106F	V _{CE (sat)}	I _C = -5 mA I _B = -0.25 mA	—	-0.1	-0.3	V
Input Voltage (ON)	RN2101F	V _{I (ON)}	V _{CE} = -0.2 V I _C = -5 mA	-1.1	—	-2.0	V
	RN2102F			-1.2	—	-2.4	
	RN2103F			-1.3	—	-3.0	
	RN2104F			-1.5	—	-5.0	
	RN2105F			-0.6	—	-1.1	
	RN2106F			-0.7	—	-1.3	
Input Voltage (OFF)	RN2101F~2104F	V _{I (OFF)}	V _{CE} = -5 V I _C = -0.1 mA	-1.0	—	-1.5	V
	RN2105F, 2106F			-0.5	—	-0.8	
Transition Frequency	RN2101F~2106F	f _T	V _{CE} = -10 V, I _C = -5 mA	—	200	—	MHz
Collector Output Capacitance	RN2101F~2106F	C _{ob}	V _{CB} = -10 V, I _E = 0 f = 1 MHz	—	3	6	pF
Input Resistor	RN2101F	R ₁		3.29	4.7	6.11	kΩ
	RN2102F			7	10	13	
	RN2103F			15.4	22	28.6	
	RN2104F			32.9	47	61.1	
	RN2105F			1.54	2.2	2.86	
	RN2106F			3.29	4.7	6.11	
Resistor Ratio	RN2101F~2104F	R ₁ / R ₂		0.9	1.0	1.1	
	RN2105F			0.0421	0.0468	0.0515	
	RN2106F			0.09	0.1	0.11	









TYPE NAME	MARKING
RN2101F	
RN2102F	
RN2103F	
RN2104F	
RN2105F	
RN2106F	