

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

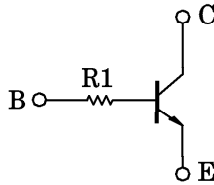
RN1112F, RN1113F

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

Unit in mm

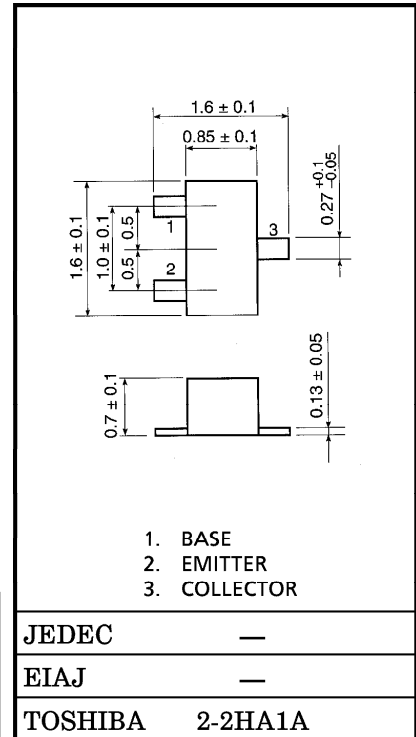
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN2112F, RN2113F

EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	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

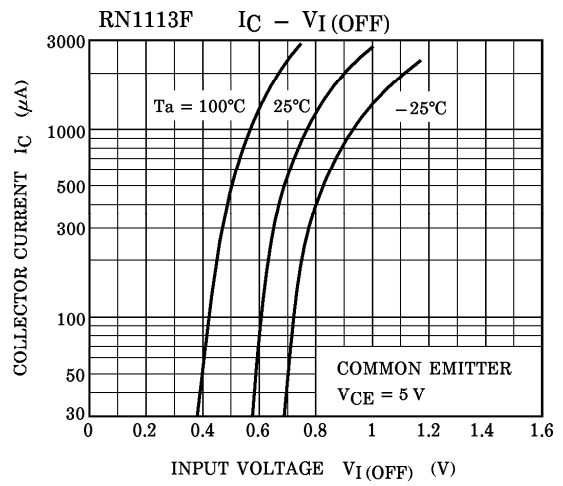
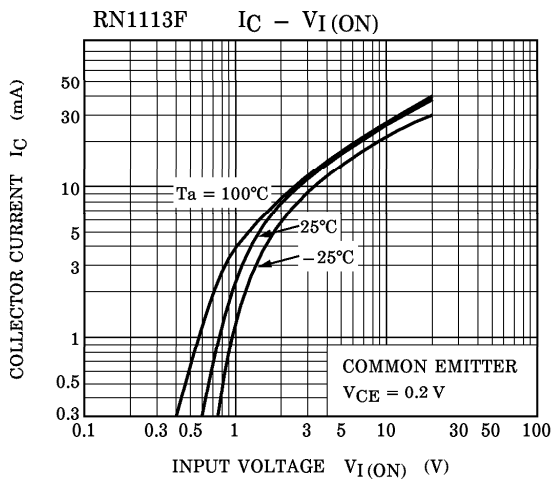
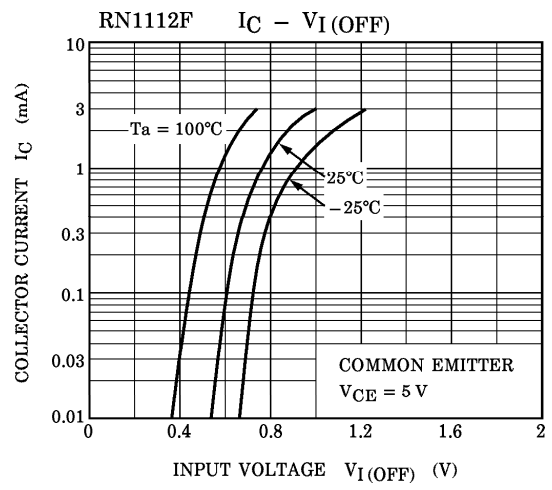
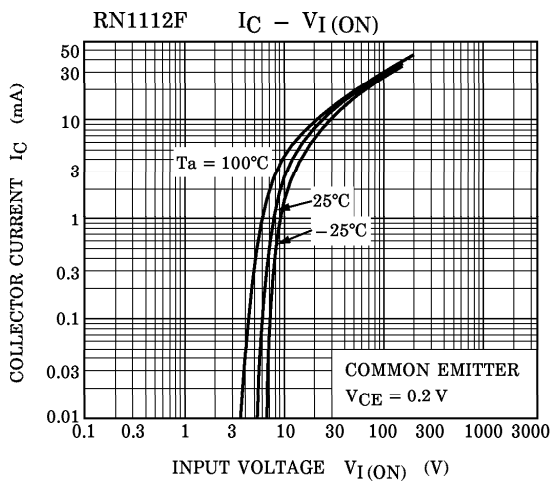


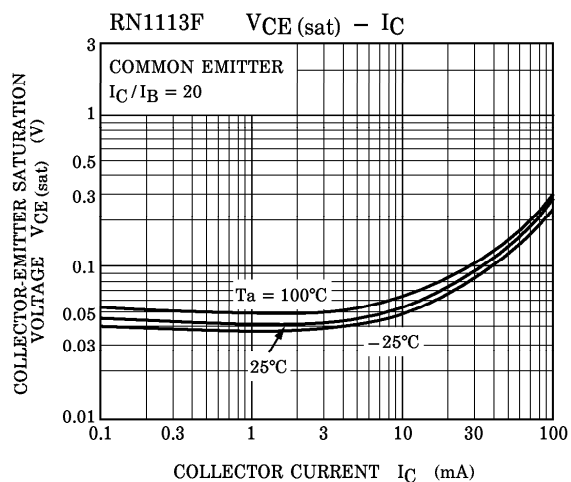
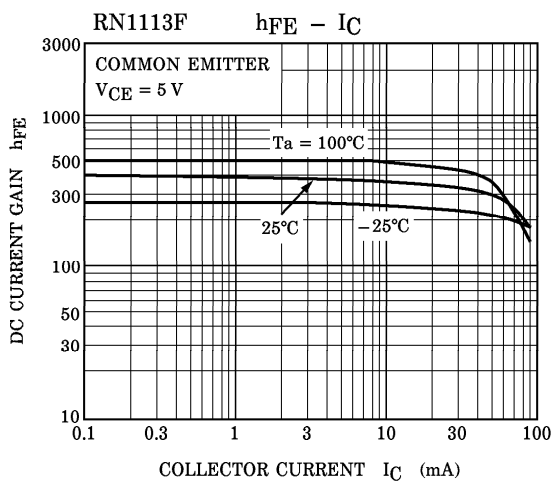
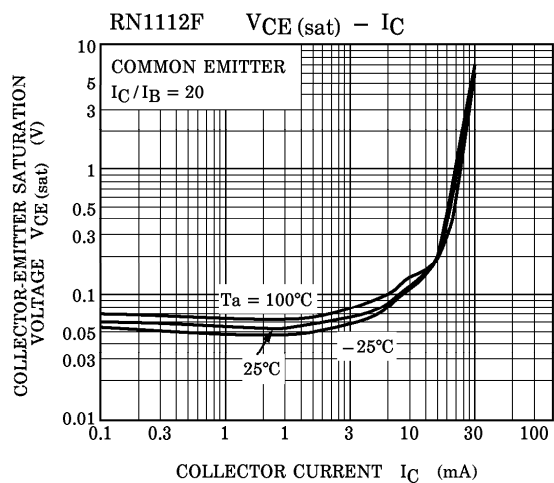
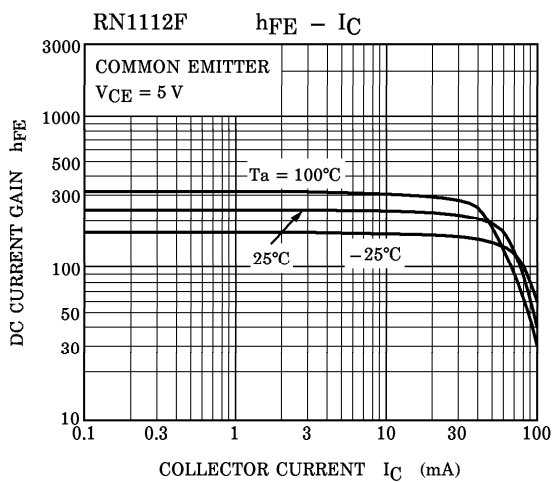
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

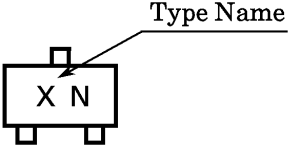
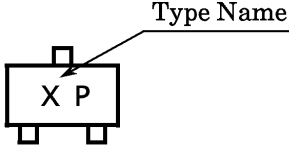
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I _{CBO}	V _{CB} = 50 V, I _E = 0	—	—	100	nA	
Emitter Cut-off Current	I _{EBO}	V _{EB} = 5 V, I _C = 0	—	—	100	nA	
DC Current Gain	h _{FE}	V _{CE} = 5 V, I _C = 1 mA	120	—	700		
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 5 mA, I _B = 0.25 mA	—	0.1	0.3	V	
Transition Frequency	f _T	V _{CE} = 10 V, I _C = 5 mA	—	250	—	MHz	
Collector Output Capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	3	6	pF	
Input Resistor	RN1112F	R1	—	15.4	22	28.6	kΩ
	RN1113F			32.9	47	61.1	

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TYPE NAME	MARKING
RN1112F	 A schematic diagram of a component marking. It shows a rectangular box with a small square protrusion on top and two small square protrusions on the bottom. Inside the box, the characters 'X N' are printed. An arrow points from the text 'Type Name' to the 'N' in 'X N'.
RN1113F	 A schematic diagram of a component marking. It shows a rectangular box with a small square protrusion on top and two small square protrusions on the bottom. Inside the box, the characters 'X P' are printed. An arrow points from the text 'Type Name' to the 'P' in 'X P'.