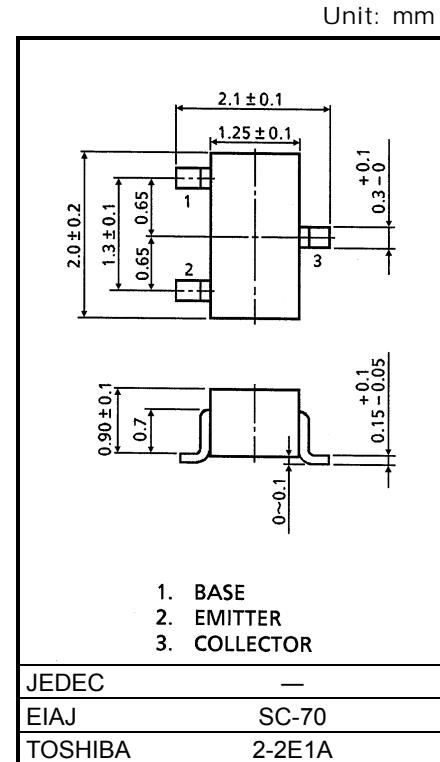
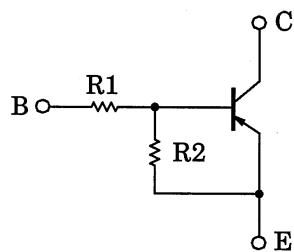


TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

RN2307, RN2308, RN2309Switching, 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 RN1307~RN1309

**Equivalent Circuit****Bias Resistor Values**

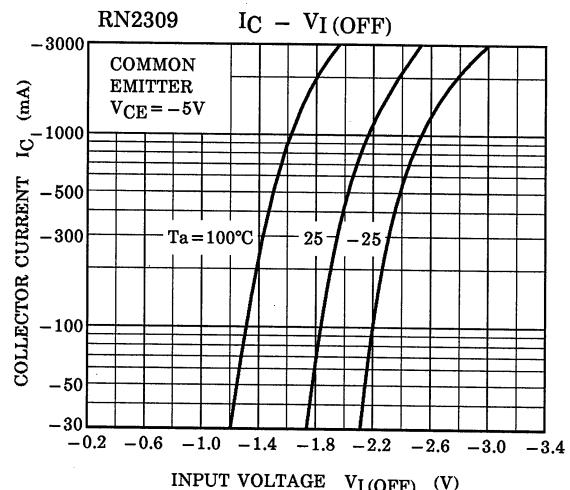
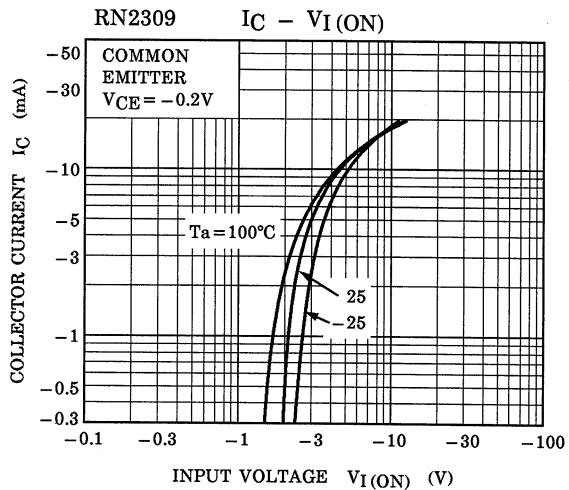
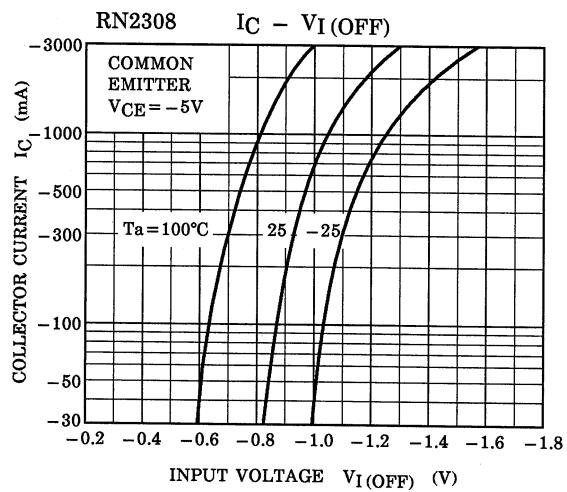
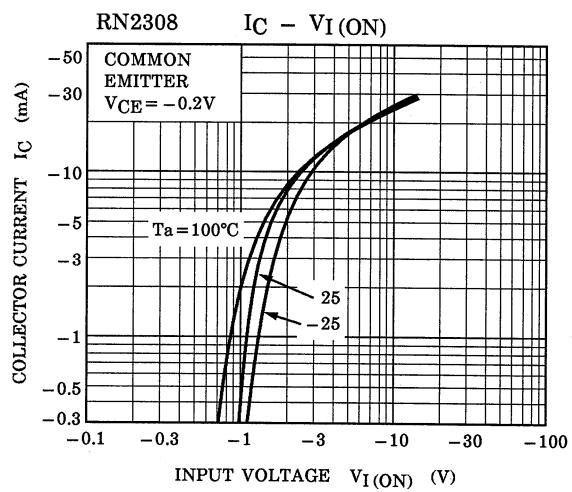
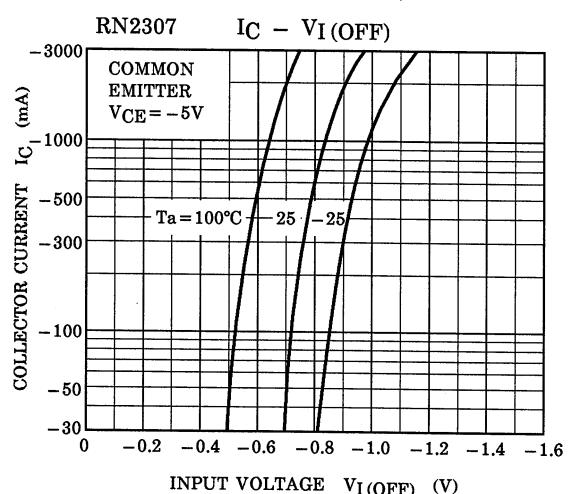
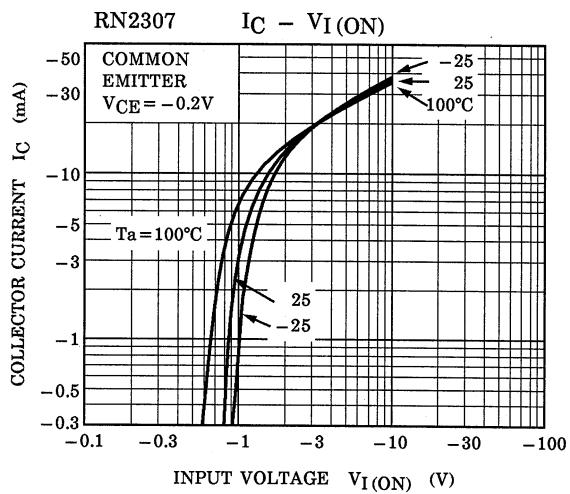
Type No.	R1 (kΩ)	R2 (kΩ)
RN2307	10	47
RN2308	22	47
RN2309	47	22

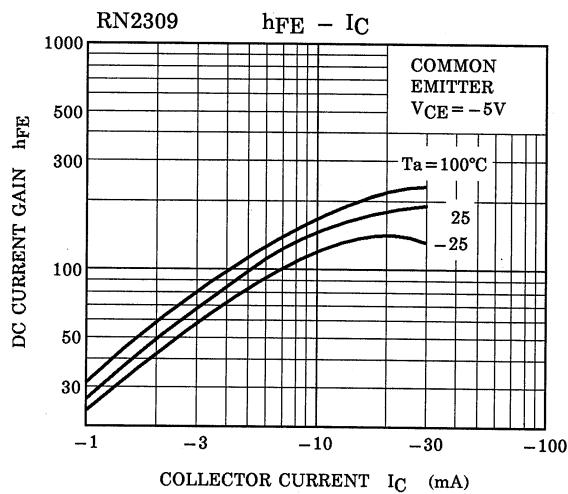
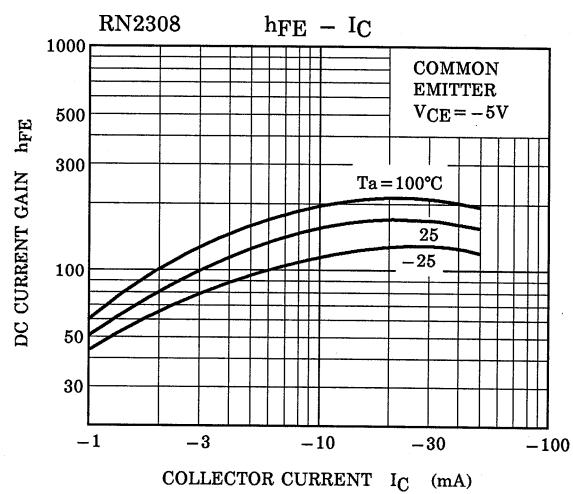
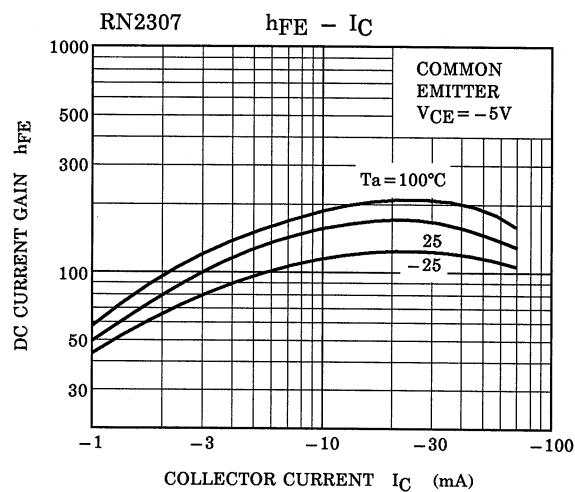
Maximum Ratings (Ta = 25°C)

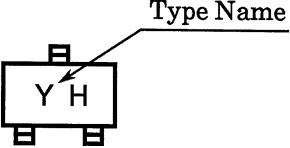
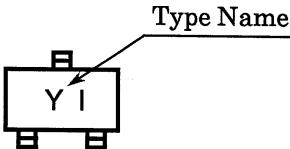
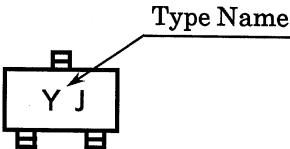
Characteristic		Symbol	Rating	Unit
Collector-base voltage		V _{CBO}	-50	V
Collector-emitter voltage		V _{CEO}	-50	V
Emitter-base voltage	RN2307	V _{EBO}	-6	V
	RN2308		-7	
	RN2309		-15	
Collector current		I _C	-100	mA
Collector power dissipation		P _C	100	mW
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	-55~150	°C

Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Circuit	Test Condition		Min	Typ.	Max	Unit
Collector cut-off current		I _{CBO}	—	V _{CB} = -50V, I _E = 0		—	—	-100	nA
		I _{CEO}	—	V _{CE} = -50V, I _B = 0		—	—	-500	
Emitter cut-off current	RN2307	I _{EBO}	—	V _{EB} = -6V, I _C = 0		-0.081	—	-0.15	mA
	RN2308		—	V _{EB} = -7V, I _C = 0		-0.078	—	-0.145	
	RN2309		—	V _{EB} = -15V, I _C = 0		-0.167	—	-0.311	
DC current gain	RN2307	h _{FE}	—	V _{CE} = -5V, I _C = -10mA		80	—	—	—
	RN2308		—			80	—	—	
	RN2309		—			70	—	—	
Collector-emitter saturation voltage		V _{CE} (sat)	—	I _C = -5mA, I _B = -0.25mA		—	-0.1	-0.3	V
Input voltage (ON)	RN2307	V _I (ON)	—	V _{CE} = -0.2V, I _C = -5mA		-0.7	—	-1.8	V
	RN2308		—			-1.0	—	-2.6	
	RN2309		—			-2.2	—	-5.8	
Input voltage (OFF)	RN2307	V _I (OFF)	—	V _{CE} = -5V, I _C = -0.1mA		-0.5	—	-1.0	V
	RN2308		—			-0.6	—	-1.16	
	RN2309		—			-1.5	—	-2.6	
Translation frequency		f _T	—	V _{CE} = -10V, I _C = -5mA		—	200	—	MHz
Collector output capacitance		C _{ob}	—	V _{CB} = -10V, I _E = 0, f = 1MHz		—	3	6	pF
Input resistor	RN2307	R1	—	—		7	10	13	kΩ
	RN2308		—			15.4	22	28.6	
	RN2309		—			32.9	47	61.1	
Resistor ratio	RN2307	R1/R2	—	—		0.191	0.213	0.232	—
	RN2308		—			0.421	0.468	0.515	
	RN2309		—			1.92	2.14	2.35	





Type Name	Marking
RN2307	
RN2308	
RN2309	

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000707EAA

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