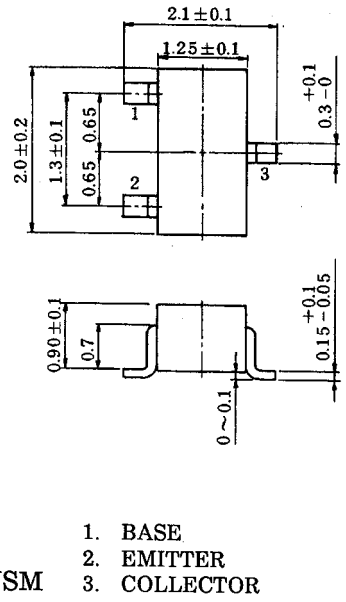
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

RN2312,RN2313

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 RN1312, RN1313

Unit: mm



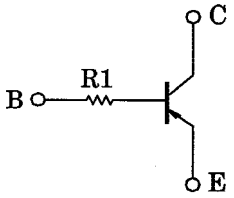
1. BASE
2. EMITTER
3. COLLECTOR

USM

JEDEC	—
EIAJ	SC-70
TOSHIBA	2-2E1A

Weight: 0.006g

Equivalent Circuit



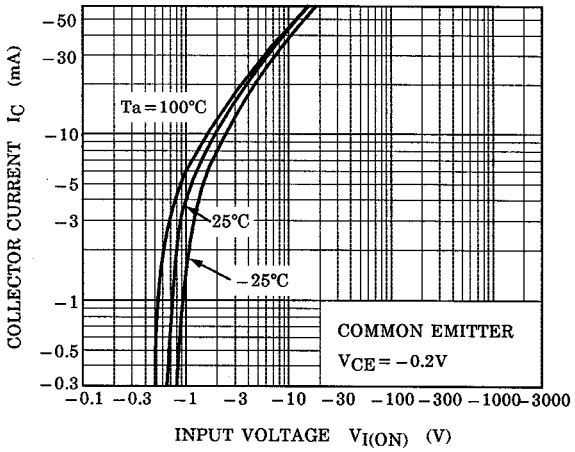
Maximum Ratings (Ta = 25°C)

Characterisstic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	−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

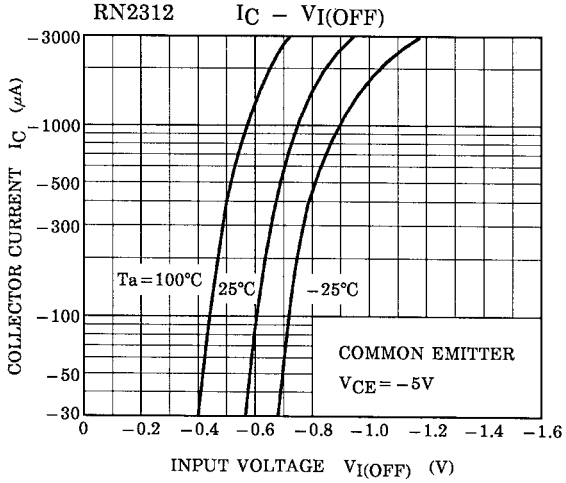
Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	—	V_{CB} =−50V, I_E =0	—	—	−100	nA
Emitter cut-off current		I_{EBO}	—	V_{EB} = −5V, I_C = 0	—	—	−100	nA
DC current gain		h_{FE}	—	V_{CE} = −5V, I_C = −1mA	120	—	400	—
Collector-emitter saturation voltage		$V_{CE\ (sat)}$	—	I_C = −5mA, I_B = −0.25mA	—	−0.1	−0.3	V
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	RN2312	R1	—	—	15.4	22	28.6	kΩ
	RN2313				32.9	47	61.1	

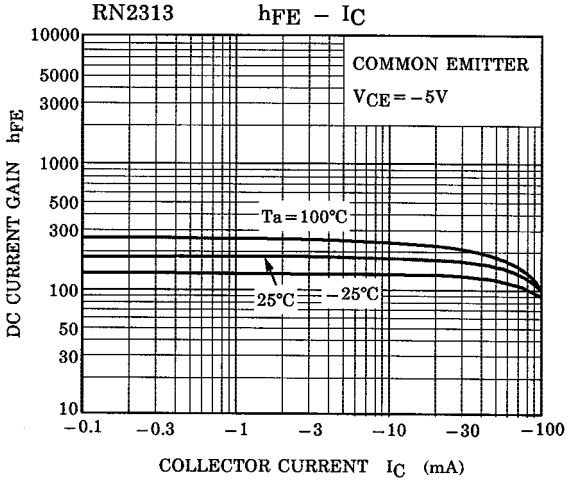
RN2312 I_C – $V_{I(ON)}$



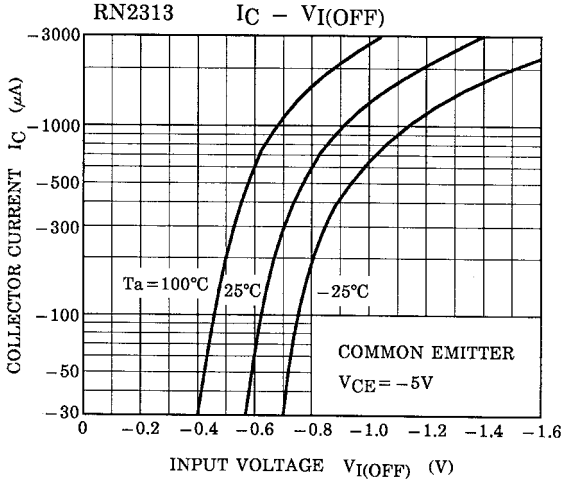
RN2312 I_C – $V_{I(OFF)}$



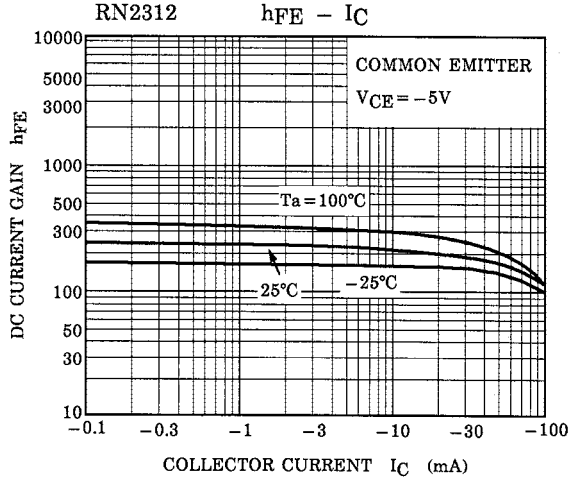
RN2313 h_{FE} – I_C



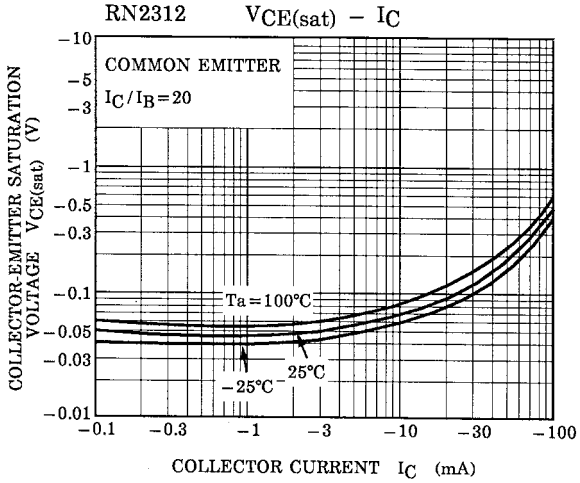
RN2313 I_C – $V_{I(OFF)}$



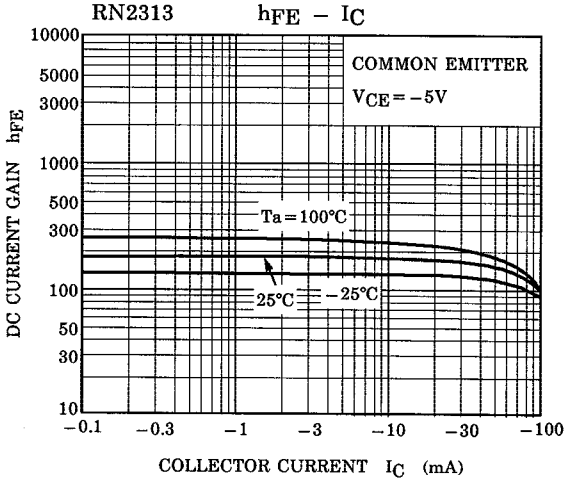
RN2312 h_{FE} – I_C



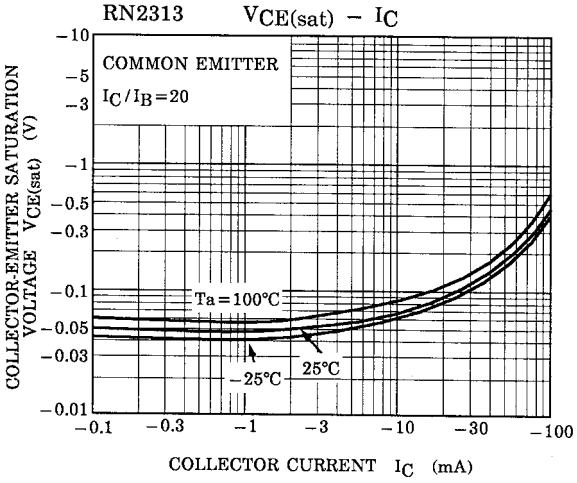
RN2312 $V_{CE(sat)}$ – I_C



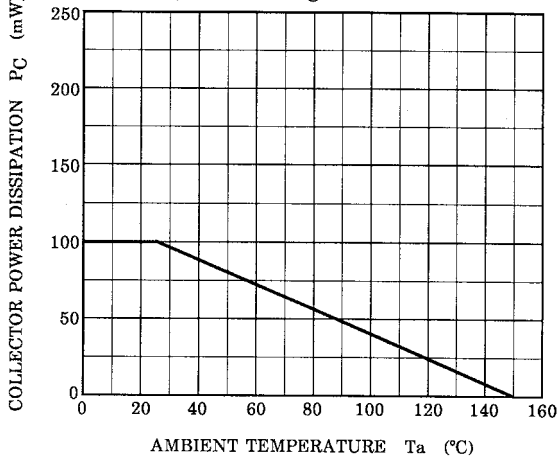
RN2313 h_{FE} – I_C

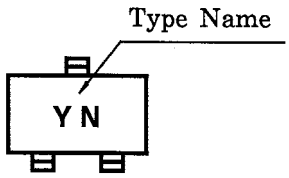
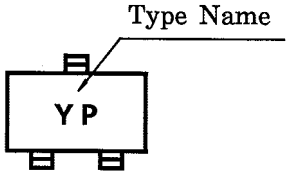


RN2313 $V_{CE(sat)}$ – I_C



RN2312, RN2313 P_C – Ta



Type Name	Marking
RN2312	
RN2313	

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