

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

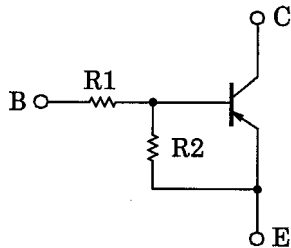
## RN2901,RN2902,RN2903,RN2904,RN2905,RN2906

Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

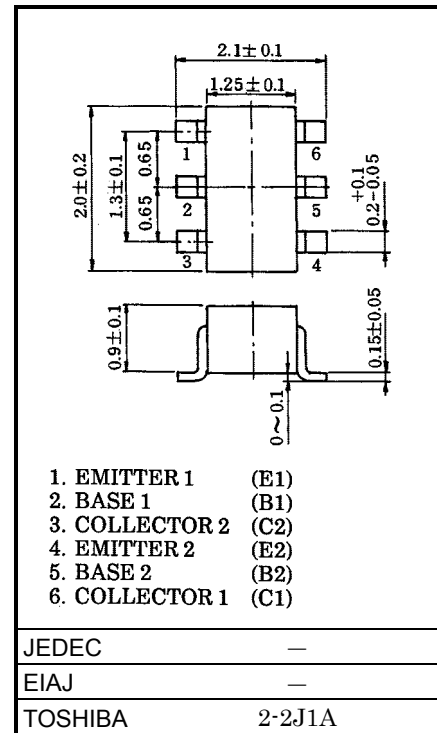
Unit in mm

- Including two devices in US6 (ultra super mini type with 6 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1901~RN1906

### Equivalent Circuit and Bias Resistor Values



Type No.	R1 (kΩ)	R2 (kΩ)
RN2901	4.7	4.7
RN2902	10	10
RN2903	22	22
RN2904	47	47
RN2905	2.2	47
RN2906	4.7	47

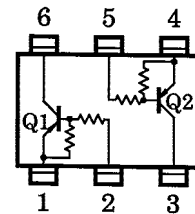


### Equivalent Circuit (Top View)

### Maximum Ratings (Ta = 25°C) (Q1, Q2 Common)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-10	V
		-5	V
Collector current	$I_C$	-100	mA
Collector power dissipation	$P_C$ *	200	mW
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

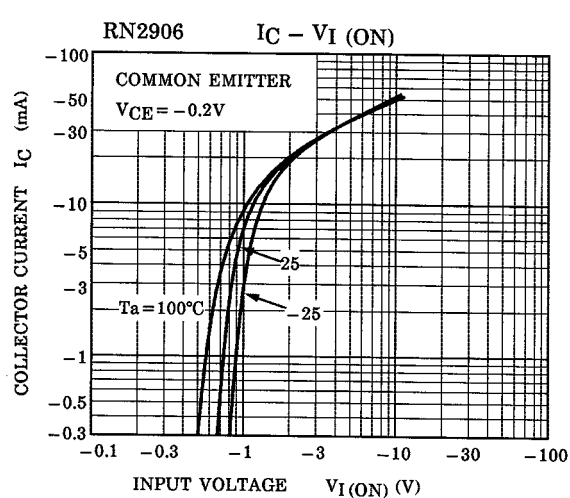
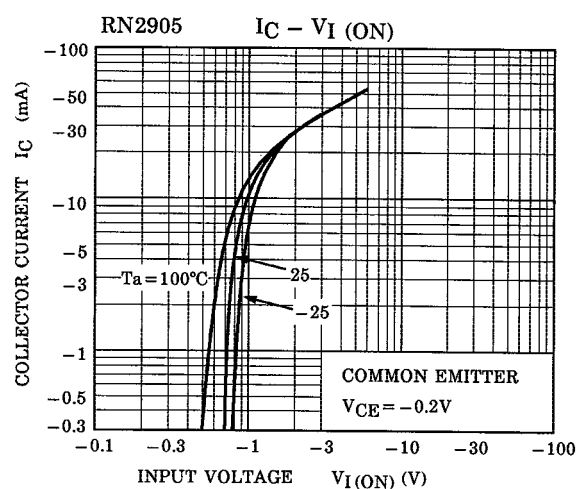
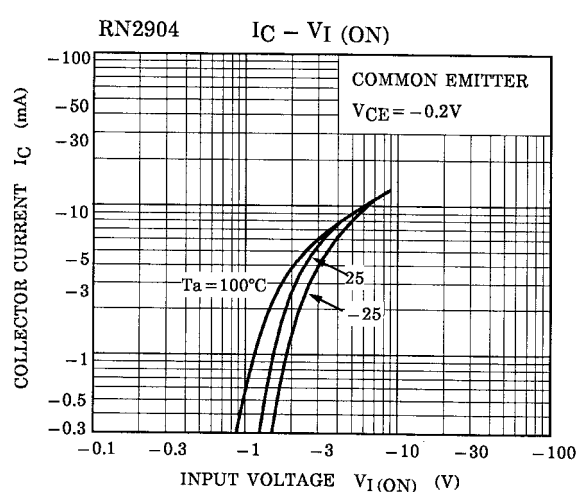
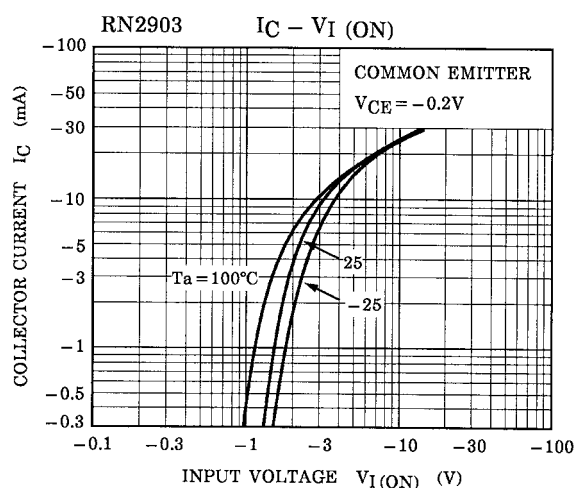
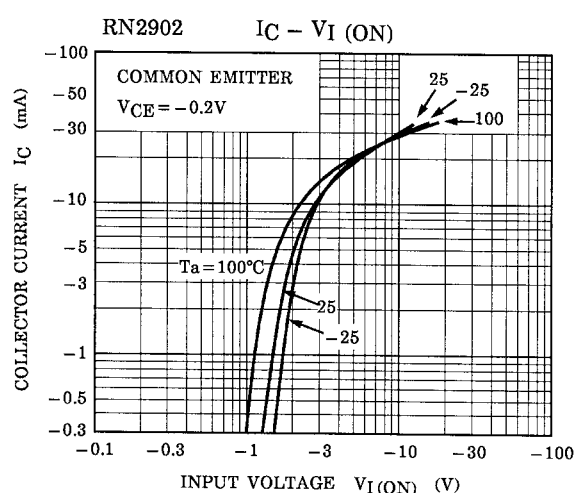
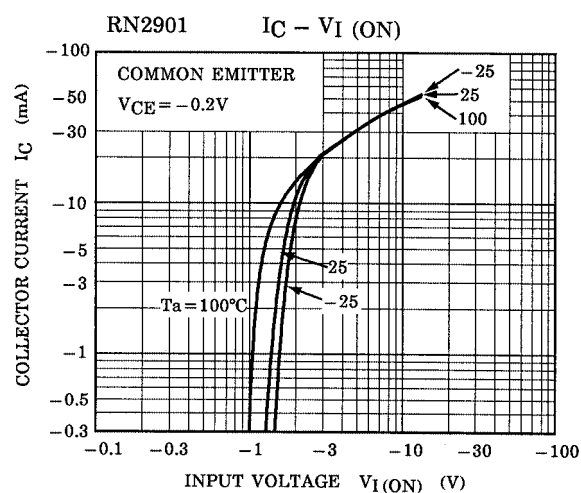
\* : Total rating



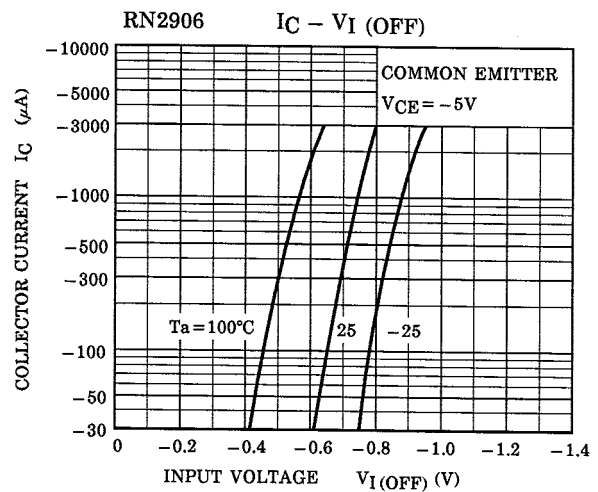
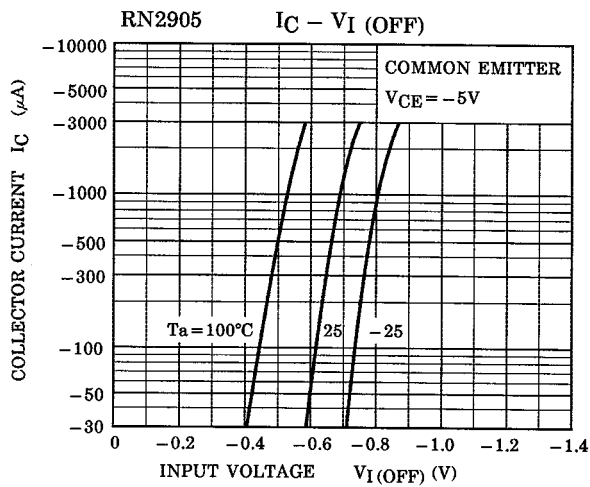
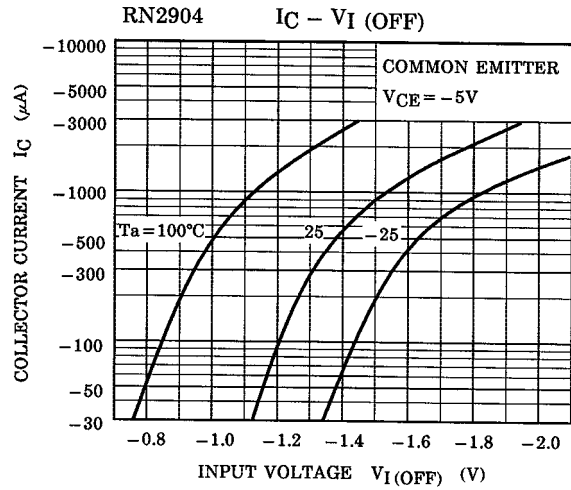
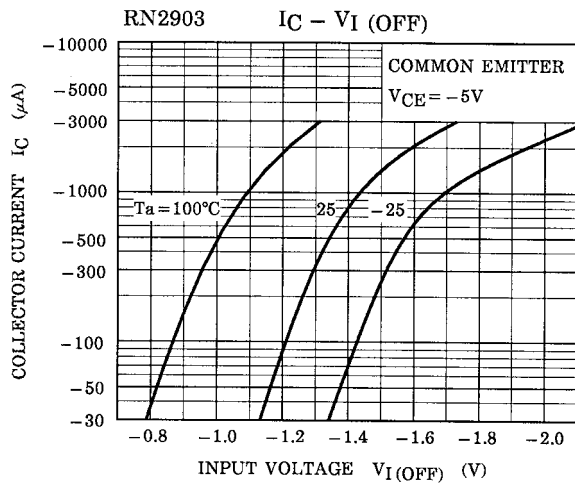
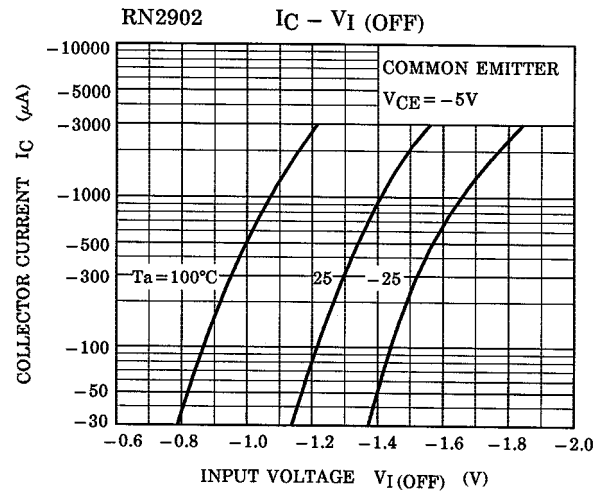
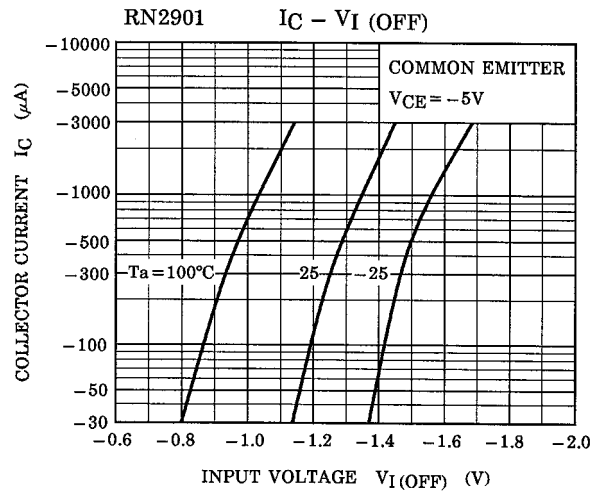
## Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	RN2901~2906	$I_{CBO}$	—	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
		$I_{CEO}$	—	$V_{CE} = -50V, I_B = 0$	—	—	-500	
Emitter cut-off current	RN2901	$I_{EBO}$	—	$V_{EB} = -10V, I_C = 0$	-0.82	—	-1.52	mA
	RN2902		—		-0.38	—	-0.71	
	RN2903		—		-0.17	—	-0.33	
	RN2904		—		-0.082	—	-0.15	
	RN2905		—	$V_{EB} = -5V, I_C = 0$	-0.078	—	-0.145	
	RN2906		—		-0.074	—	-0.138	
DC current gain	RN2901	$h_{FE}$	—	$V_{CE} = -5V$ $I_C = -10mA$	30	—	—	—
	RN2902		—		50	—	—	
	RN2903		—		70	—	—	
	RN2904		—		80	—	—	
	RN2905		—		80	—	—	
	RN2906		—		80	—	—	
Collector-emitter saturation voltage	RN2901~2906	$V_{CE(sat)}$	—	$I_C = -5mA$ $I_B = -0.25mA$	—	-0.1	-0.3	V
Input voltage (ON)	RN2901	$V_{I(ON)}$	—	$V_{CE} = -0.2V$ $I_C = -5mA$	-1.1	—	-2.0	V
	RN2902		—		-1.2	—	-2.4	
	RN2903		—		-1.3	—	-3.0	
	RN2904		—		-1.5	—	-5.0	
	RN2905		—		-0.6	—	-1.1	
	RN2906		—		-0.7	—	-1.3	
Input voltage (OFF)	RN2901~2904	$V_{I(OFF)}$	—	$V_{CE} = -5V,$ $I_C = -0.1mA$	-1.0	—	-1.5	V
	RN2905, 2906		—		-0.5	—	-0.8	
Translation frequency	RN2901~2906	$f_T$	—	$V_{CE} = -10V,$ $I_C = -5mA$	—	200	—	MHz
Collector output capacitance	RN2901~2906	$C_{ob}$	—	$V_{CB} = -10V, I_E = 0$ $f = 1MHz$	—	3	6	pF
Input resistor	RN2901	R1	—	—	3.29	4.7	6.11	kΩ
	RN2902		—		7	10	13	
	RN2903		—		15.4	22	28.6	
	RN2904		—		32.9	47	61.1	
	RN2905		—		1.54	2.2	2.86	
	RN2906		—		3.29	4.7	6.11	
Resistor ratio	RN2901~2904	R1/R2	—	—	0.9	1.0	1.1	—
	RN2905		—		0.0421	0.0468	0.0515	
	RN2906		—		0.09	0.1	0.11	

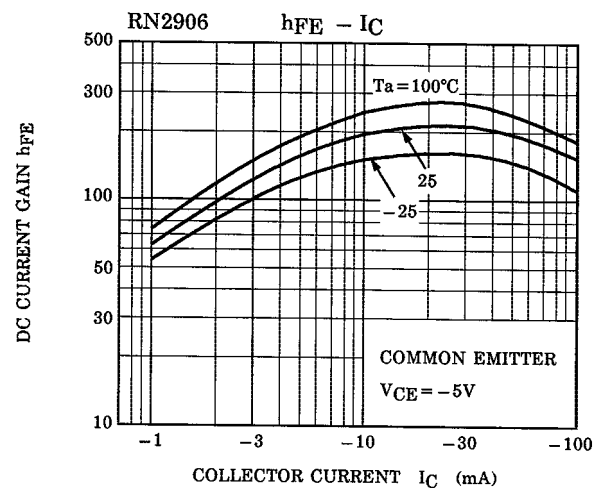
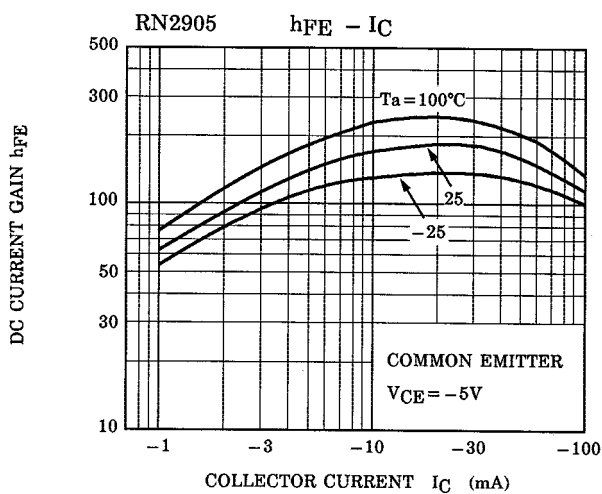
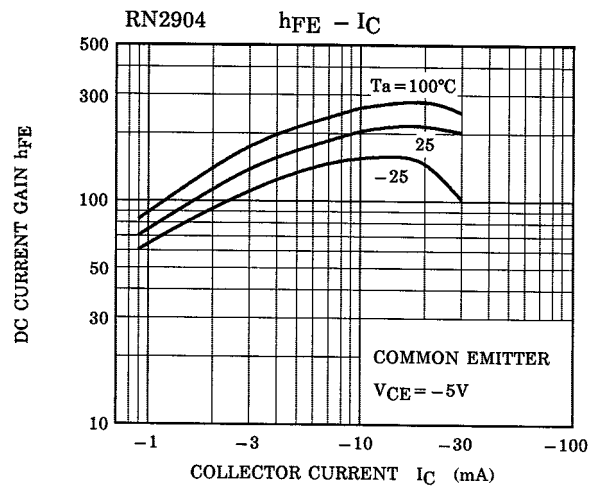
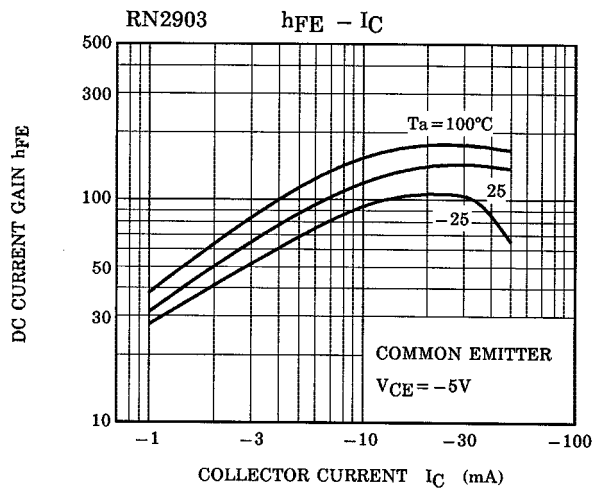
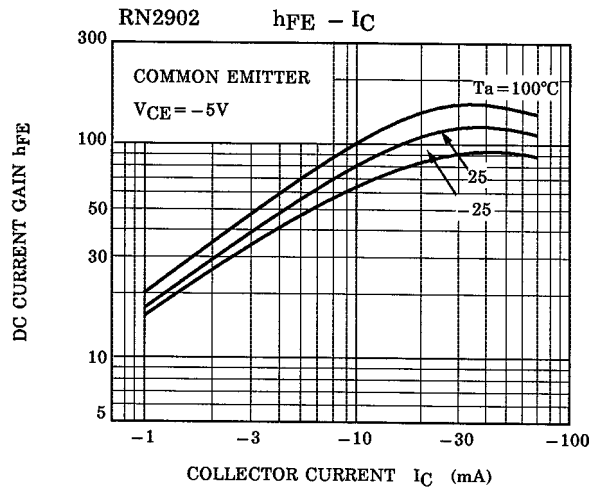
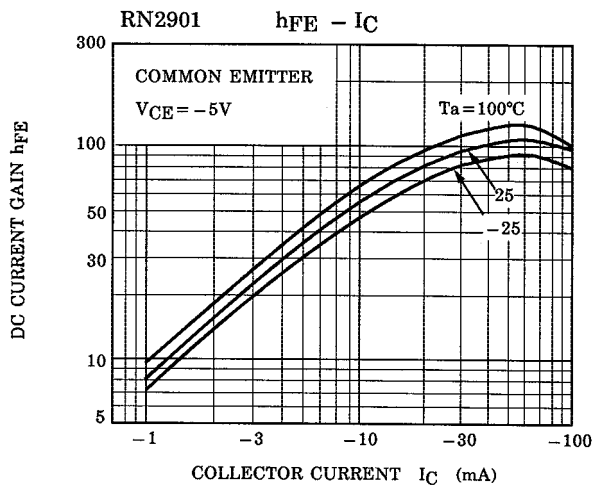
(Q1, Q2 Common)

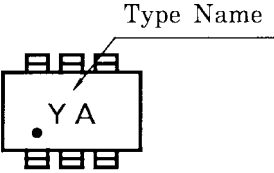
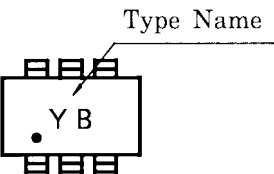
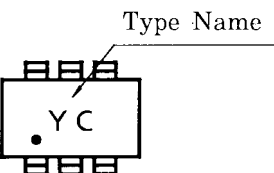
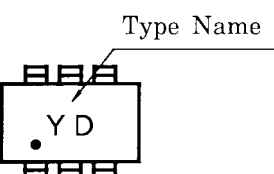
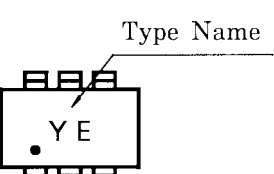
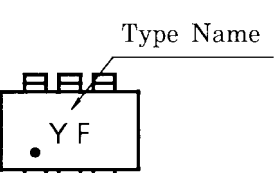


(Q1, Q2 Common)



(Q1, Q2 Common)



Type Name	Marking
RN2901	
RN2902	
RN2903	
RN2904	
RN2905	
RN2906	

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000707EAA

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