

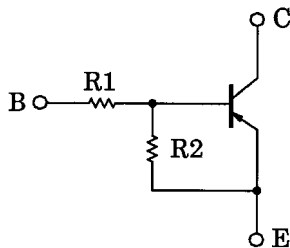
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

## RN2701,RN2702,RN2703,RN2704,RN2705,RN2706

Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

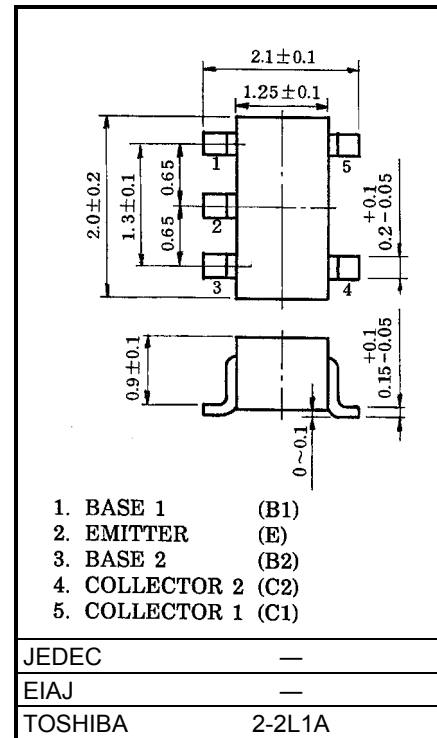
- Including two devices in USV (ultra super mini type with 5 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1701~1706

### Equivalent Circuit and Bias Resistor Values



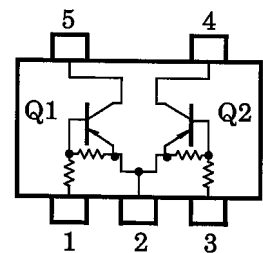
Type No.	R1 (kΩ)	R2 (kΩ)
RN2701	4.7	4.7
RN2702	10	10
RN2703	22	22
RN2704	47	47
RN2705	2.2	47
RN2706	4.7	47

Unit: mm



Weight: 6.2mg

### Equivalent Circuit (Top View)



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

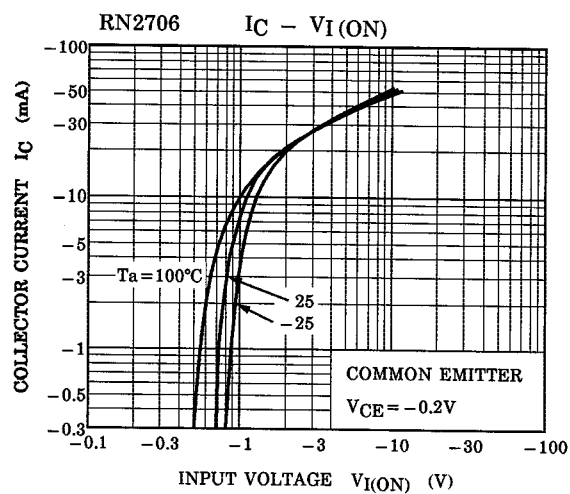
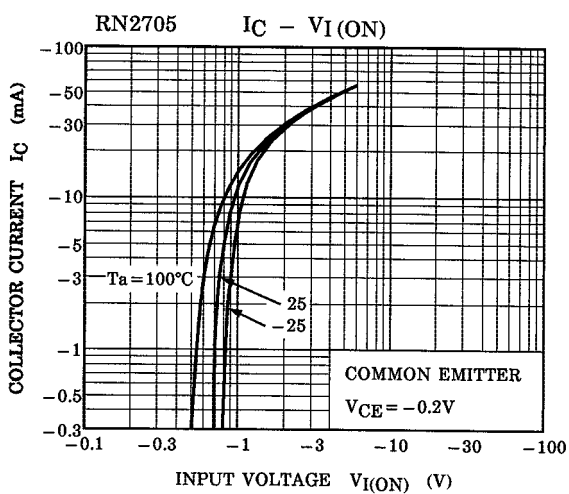
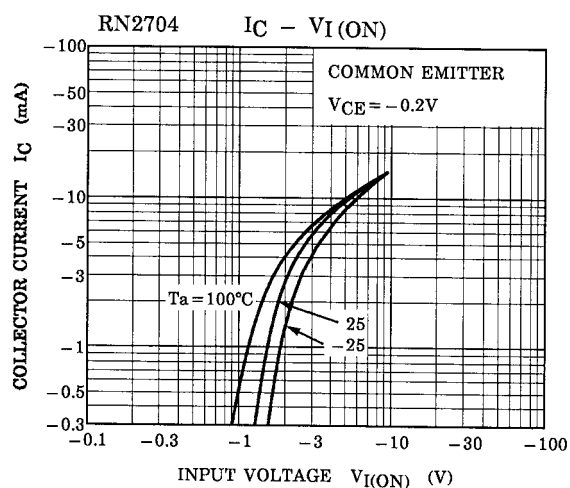
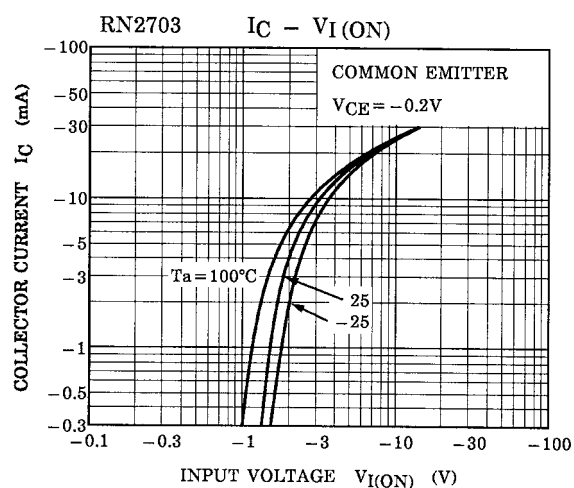
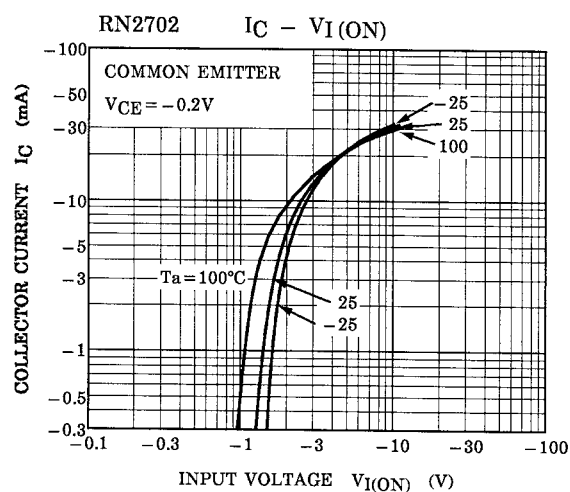
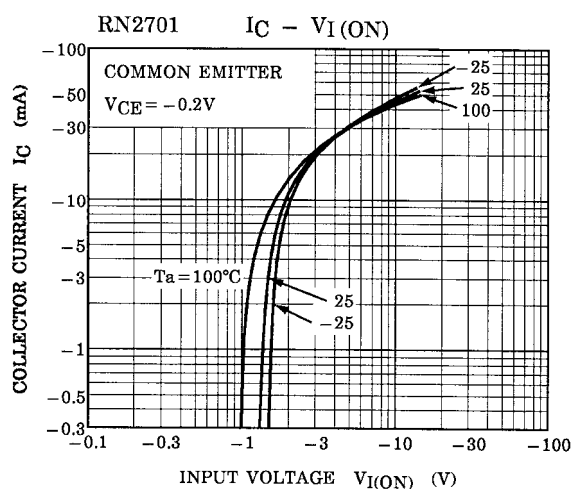
Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-50	V
		-10	
		-5	
Collector current	$I_C$	-100	mA
Collector power dissipation	$P_C$ *	200	mW
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

\* : Total rating

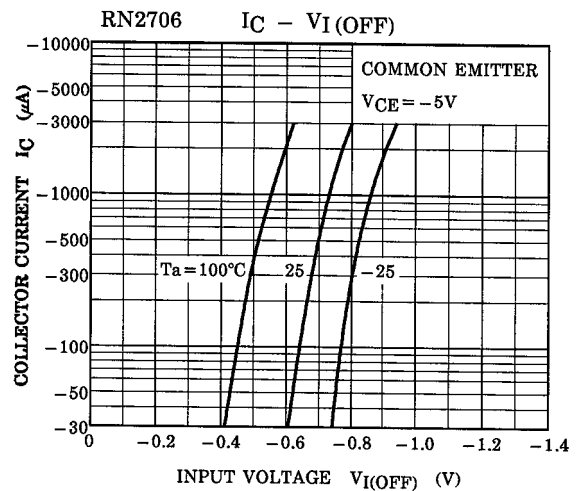
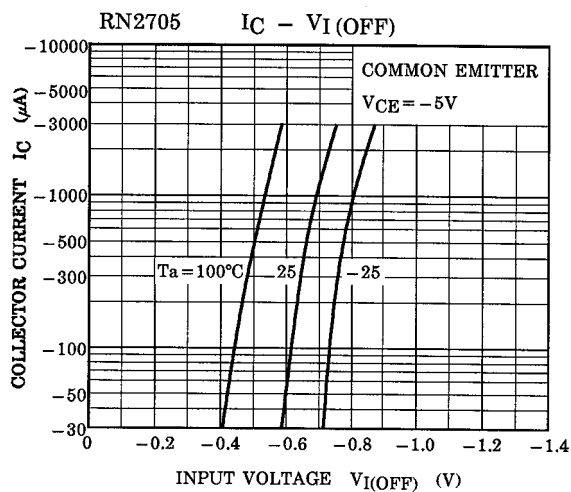
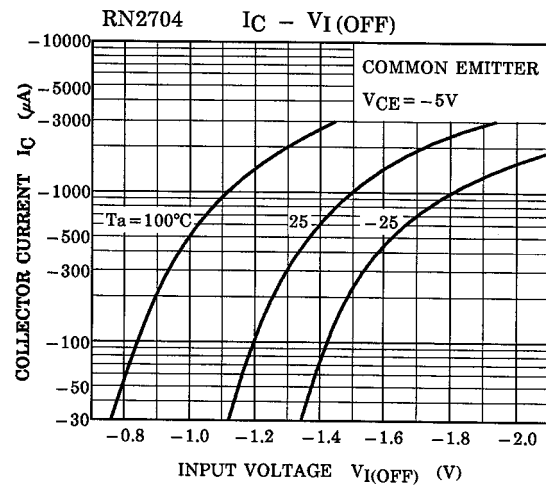
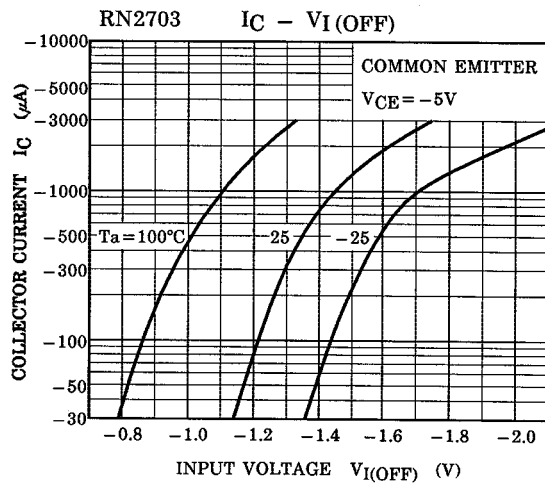
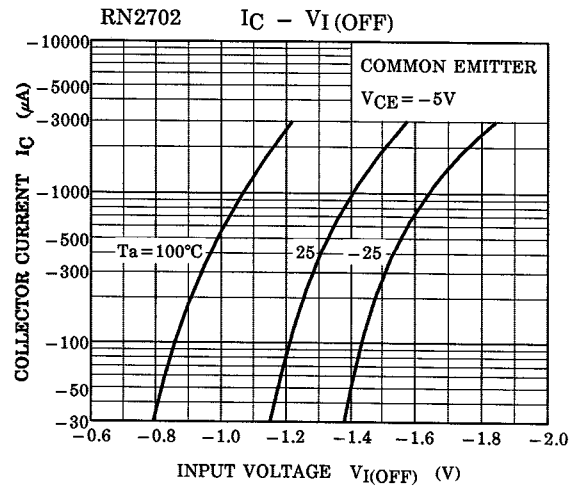
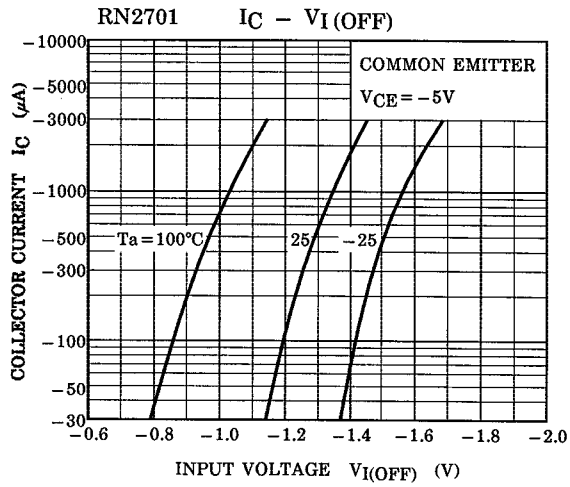
**Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)**

Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	RN2701~2706	$I_{CBO}$	—	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
		$I_{CEO}$	—	$V_{CE} = -50V, I_B = 0$	—	—	-500	
Emitter cut-off current	RN2701	$I_{EBO}$	—	$V_{EB} = -10V, I_C = 0$	-0.82	—	-1.52	mA
	RN2702		—		-0.38	—	-0.71	
	RN2703		—		-0.17	—	-0.33	
	RN2704		—		-0.082	—	-0.15	
	RN2705		—	$V_{EB} = -5V, I_C = 0$	-0.078	—	-0.145	
	RN2706		—		-0.074	—	-0.138	
DC current gain	RN2701	$h_{FE}$	—	$V_{CE} = -5V$ $I_C = -10mA$	30	—	—	—
	RN2702		—		50	—	—	
	RN2703		—		70	—	—	
	RN2704		—		80	—	—	
	RN2705		—		80	—	—	
	RN2706		—		80	—	—	
Collector-emitter saturation voltage	RN2701~2706	$V_{CE(sat)}$	—	$I_C = -5mA$ $I_B = -0.25mA$	—	-0.1	-0.3	V
Input voltage (ON)	RN2701	$V_{I(ON)}$	—	$V_{CE} = -0.2V$ $I_C = -5mA$	-1.1	—	-2.0	V
	RN2702		—		-1.2	—	-2.4	
	RN2703		—		-1.3	—	-3.0	
	RN2704		—		-1.5	—	-5.0	
	RN2705		—		-0.6	—	-1.1	
	RN2706		—		-0.7	—	-1.3	
Input voltage (OFF)	RN2701~2704	$V_{I(OFF)}$	—	$V_{CE} = -5V,$ $I_C = -0.1mA$	-1.0	—	-1.5	V
	RN2705, 2706		—		-0.5	—	-0.8	
Translation frequency	RN2701~2706	$f_T$	—	$V_{CE} = -10V,$ $I_C = -5mA$	—	200	—	MHz
Collector output capacitance	RN2701~2706	$C_{ob}$	—	$V_{CB} = -10V, I_E = 0$ $f = 1MHz$	—	3	6	pF
Input resistor	RN2701	R1	—	—	3.29	4.7	6.11	kΩ
	RN2702		—		7	10	13	
	RN2703		—		15.4	22	28.6	
	RN2704		—		32.9	47	61.1	
	RN2705		—		1.54	2.2	2.86	
	RN2706		—		3.29	4.7	6.11	
Resistor ratio	RN2701~2704	R1/R2	—	—	0.9	1.0	1.1	—
	RN2705		—		0.0421	0.0468	0.0515	
	RN2706		—		0.09	0.1	0.11	

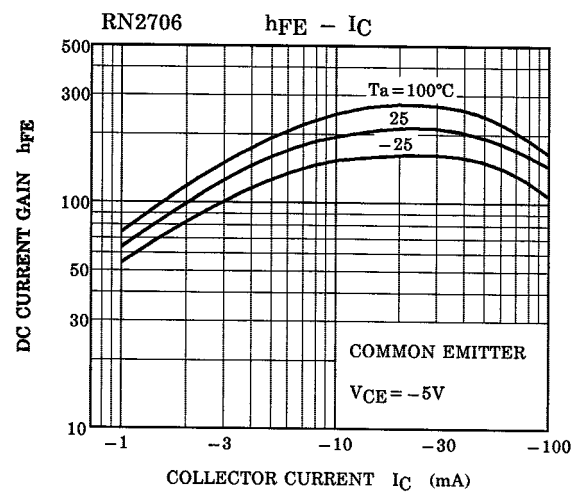
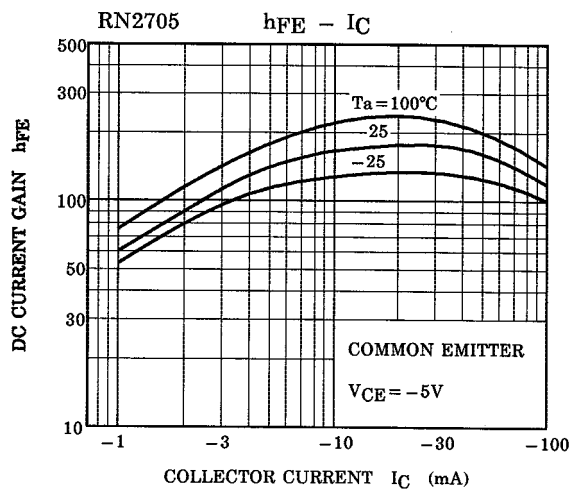
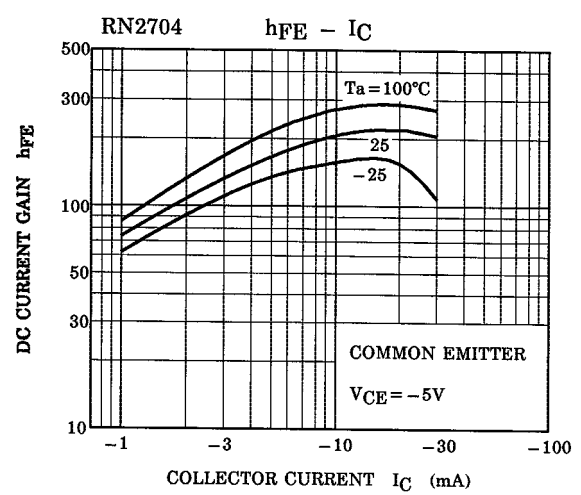
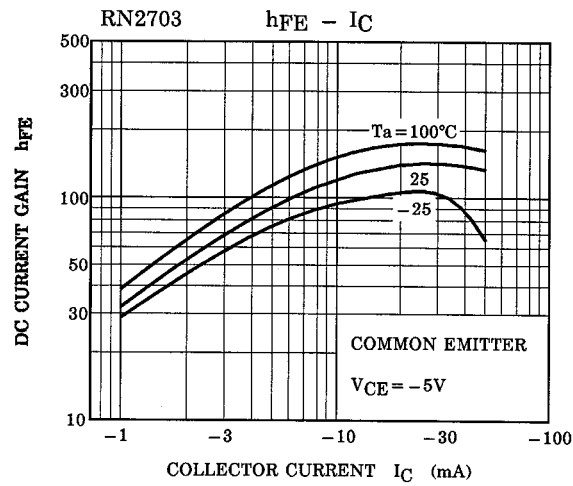
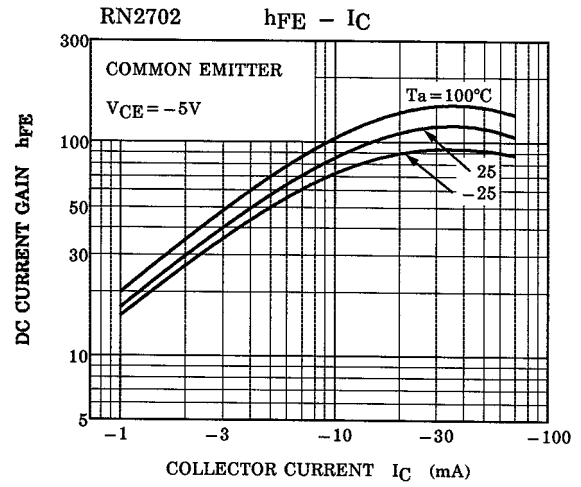
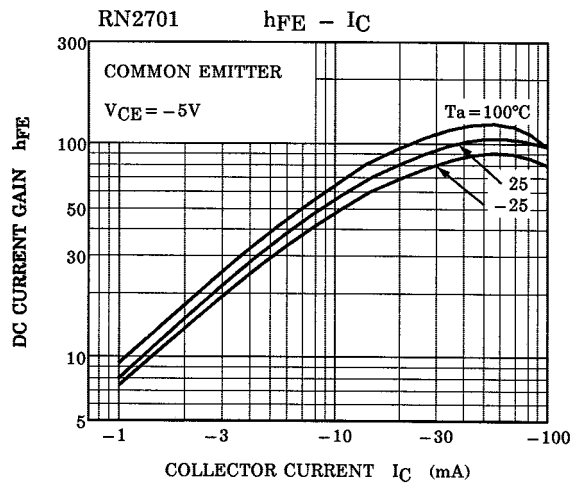
(Q1, Q2 Common)

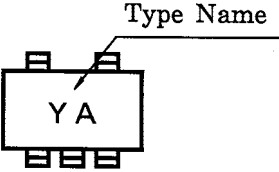
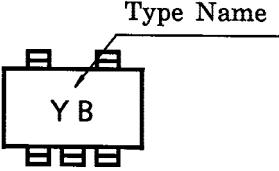
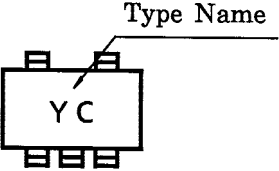
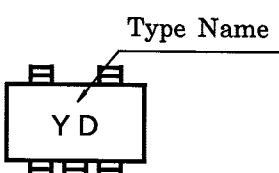
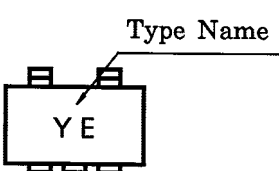
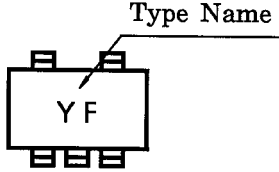


(Q1, Q2 Common)



(Q1, Q2 Common)



Type Name	Marking
RN2701	
RN2702	
RN2703	
RN2704	
RN2705	
RN2706	

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