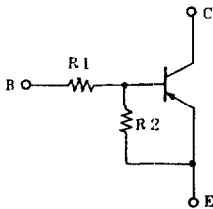


RN2301, 2302, 2303 RN2304, 2305, 2306

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 RN1301~1306

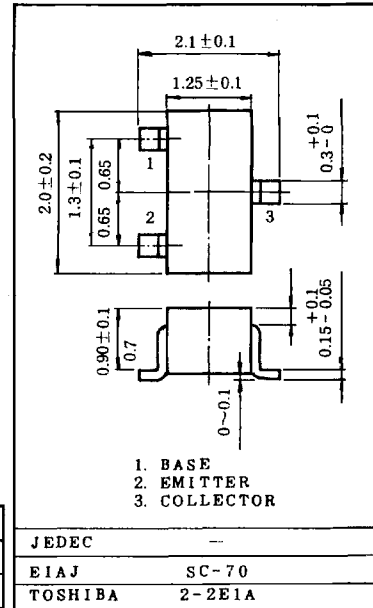
EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE No.	R1(k Ω)	R2(k Ω)
RN2301	4.7	4.7
RN2302	10	10
RN2303	22	22
RN2304	47	47
RN2305	2.2	47
RN2306	4.7	47

Unit in mm



Weight: 0.006g

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2301~2306	V_{CB0}	-50	V
Collector-Emitter Voltage		V_{CE0}	-50	V
Emitter-Base Voltage	RN2301~2304	V_{EB0}	-10	V
	RN2305~2306		-5	
Collector Current	RN2301~2306	I_C	-100	mA
Collector Power Dissipation		P_C	100	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

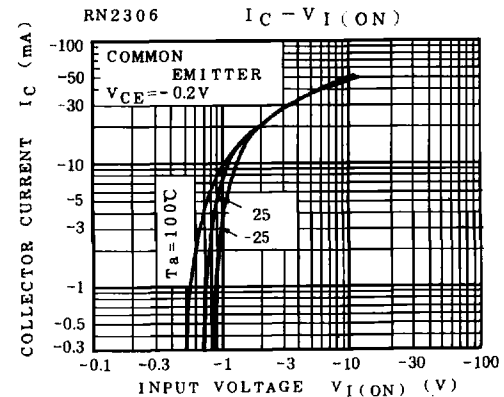
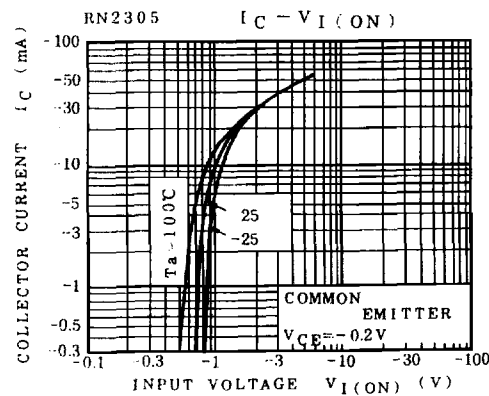
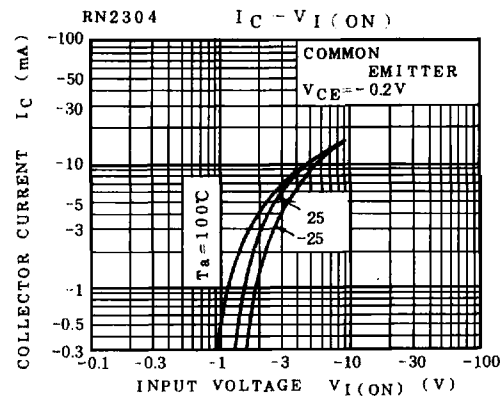
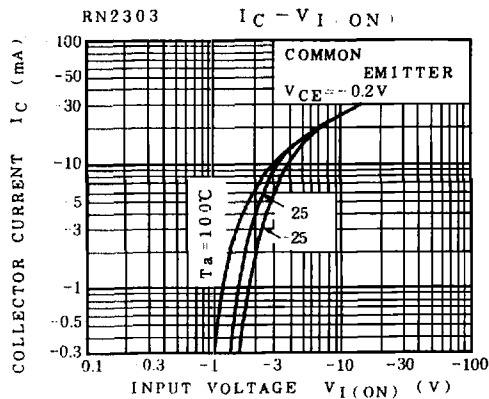
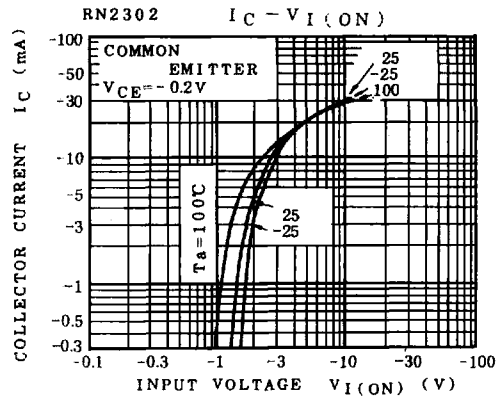
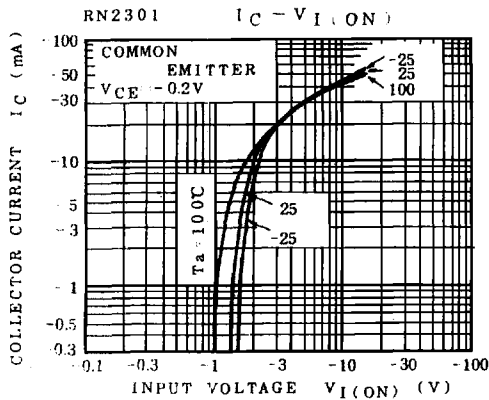
RN2301, 2302, 2303

RN2304, 2305, 2306

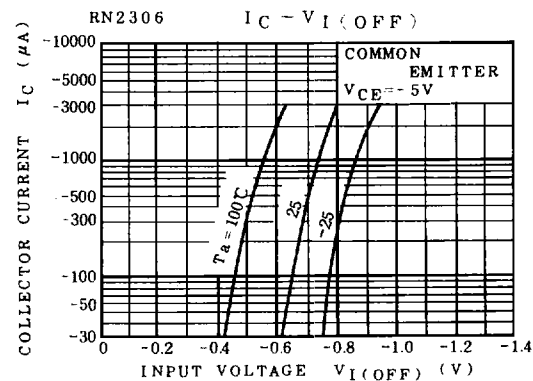
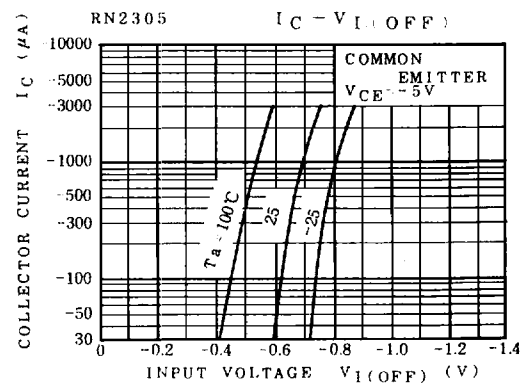
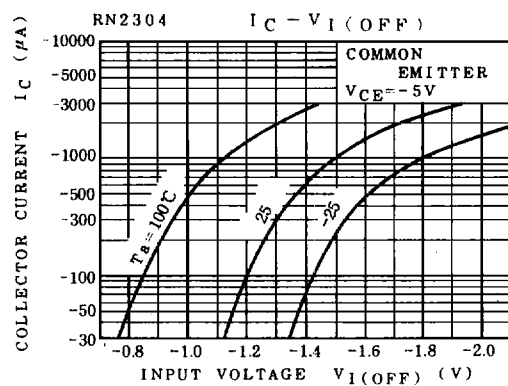
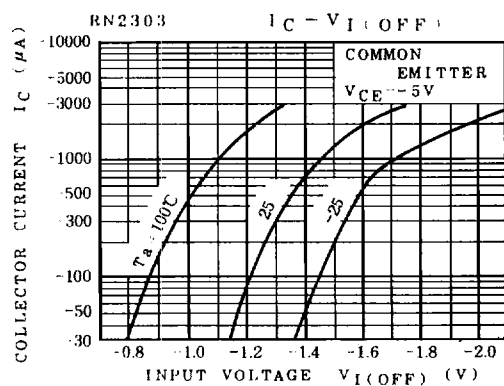
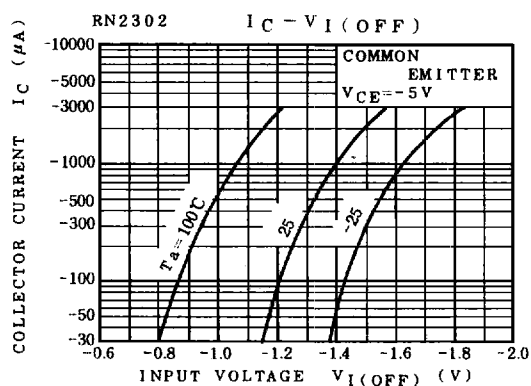
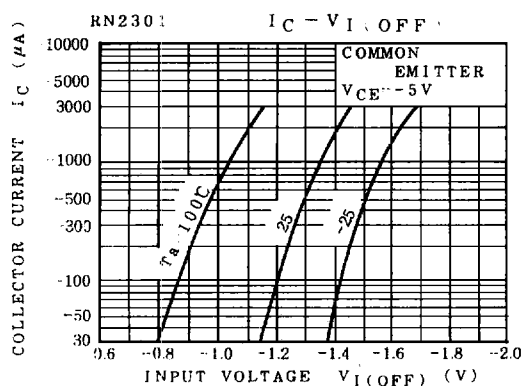
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2301~2306	ICBO	V _{CB} =-50V, I _E =0	-	-	-100	nA
		ICEO	V _{CE} =-50V, I _B =0	-	-	-500	
Emitter Cut-off Current	RN2301	IEBO	V _{EB} =-10V, I _C =0	-0.82	-	-1.52	mA
	RN2302			-0.38	-	-0.71	
	RN2303			-0.17	-	-0.33	
	RN2304			-0.082	-	-0.15	
	RN2305	IEBO	V _{EB} =-5V, I _C =0	-0.078	-	-0.145	
	RN2306			-0.074	-	-0.138	
DC Current Gain	RN2301	h _{FE}	V _{CE} =-5V I _C =-10mA	30	-	-	-
	RN2302			50	-	-	
	RN2303			70	-	-	
	RN2304			80	-	-	
	RN2305			80	-	-	
	RN2306			80	-	-	
Collector-Emitter Saturation Voltage	RN2301~2306	V _{CE(sat)}	I _C =-5mA I _B =-0.25mA	-	-0.1	-0.3	V
Input Voltage (ON)	RN2301	V _{I(ON)}	V _{CE} =-0.2V I _C =-5mA	-1.1	-	-2.0	V
	RN2302			-1.2	-	-2.4	
	RN2303			-1.3	-	-3.0	
	RN2304			-1.5	-	-5.0	
	RN2305			-0.6	-	-1.1	
	RN2306			-0.7	-	-1.3	
Input Voltage (OFF)	RN2301~2304	V _{I(OFF)}	V _{CE} =-5V I _C =-0.1mA	-1.0	-	-1.5	V
	RN2305~2306			-0.5	-	-0.8	
Transition Frequency	RN2301~2306	f _T	V _{CE} =-10V, I _C =-5mA	-	200	-	MHz
Collector Output Capacitance	RN2301~2306	C _{ob}	V _{CB} =-10V, I _E =0 f=1MHz	-	3	6	pF
Input Resistor	RN2301	R _I		3.29	4.7	6.11	kΩ
	RN2302			7	10	13	
	RN2303			15.4	22	28.6	
	RN2304			32.9	47	61.1	
	RN2305			1.54	2.2	2.86	
	RN2306			3.29	4.7	6.11	
Resistor Ratio	RN2301~2304	R ₁ /R ₂		0.9	1.0	1.1	-
	RN2305			0.0421	0.0468	0.0515	
	RN2306			0.09	0.1	0.11	

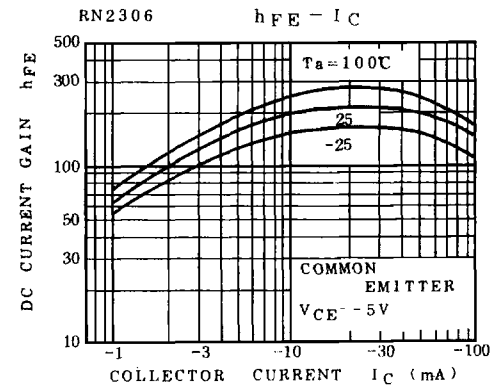
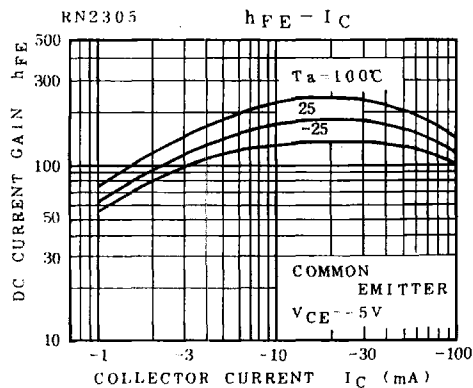
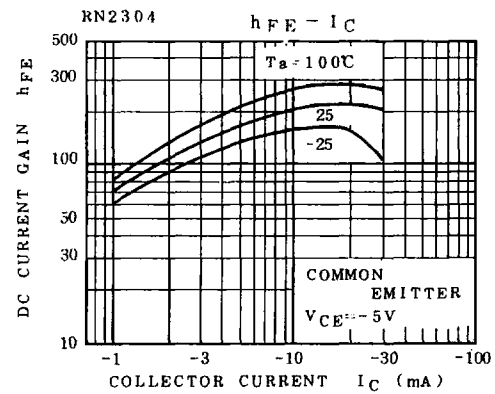
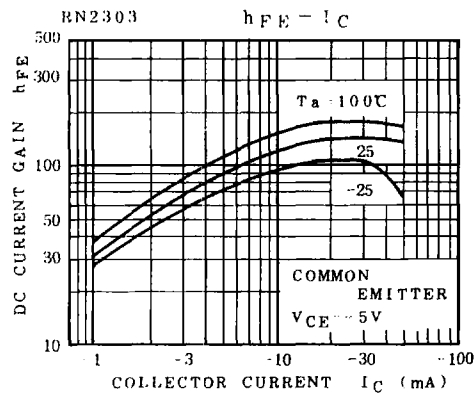
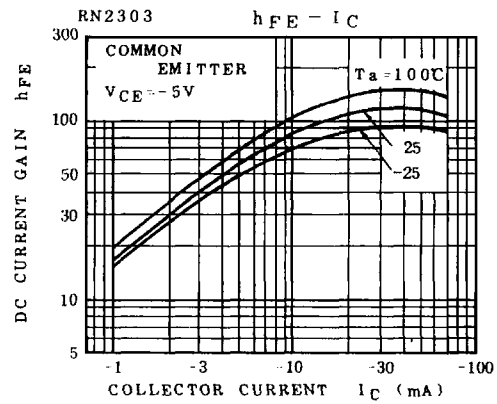
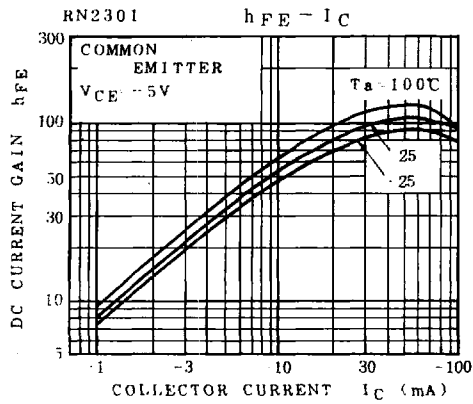
RN2301, 2302, 2303 RN2304, 2305, 2306



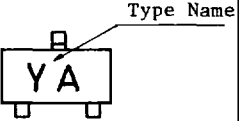
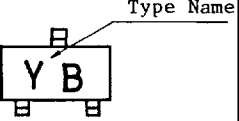
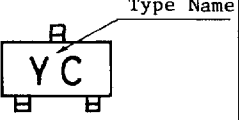
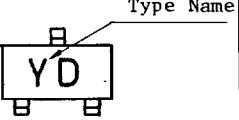
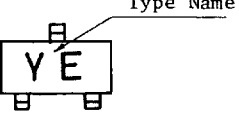
RN2301, 2302, 2303 **RN2304, 2305, 2306**



RN2301, 2302, 2303 **RN2304, 2305, 2306**



RN2301, 2302, 2303
RN2304, 2305, 2306

TYPE NAME	MARKING
RN2301	
RN2302	
RN2303	
RN2304	
RN2305	
RN2306	