

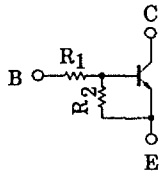
RN1414, 1415, 1416 RN1417, 1418

(RN1414)

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT
AND DRIVER CIRCUIT APPLICATIONS.

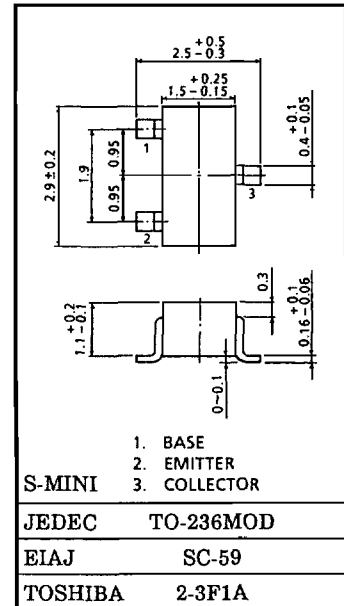
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN2414~RN2418

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R ₁ (kΩ)	R ₂ (kΩ)
RN1414	1	10
RN1415	2.2	10
RN1416	4.7	10
RN1417	10	4.7
RN1418	47	10

Unit in mm



Weight : 0.012g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN1414~1418	V _{CB0}	50	V
Collector-Emitter Voltage		V _{CE0}	50	V
Emitter-Base Voltage	RN1414	V _{EB0}	5	V
	RN1415		6	
	RN1416		7	
	RN1417		15	
	RN1418		25	
Collector Current	RN1414~1418	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

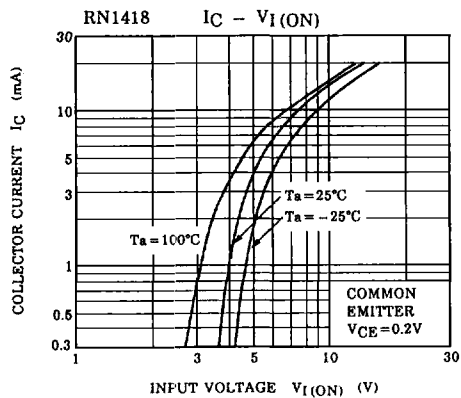
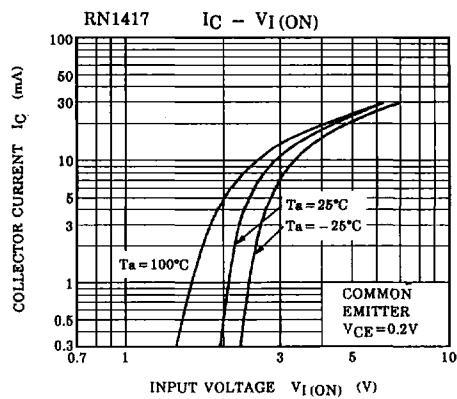
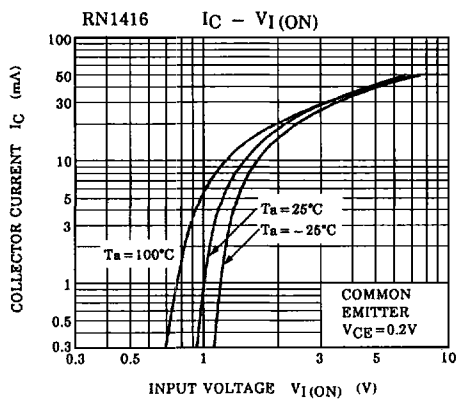
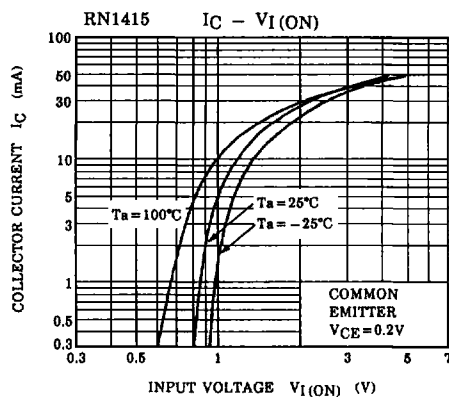
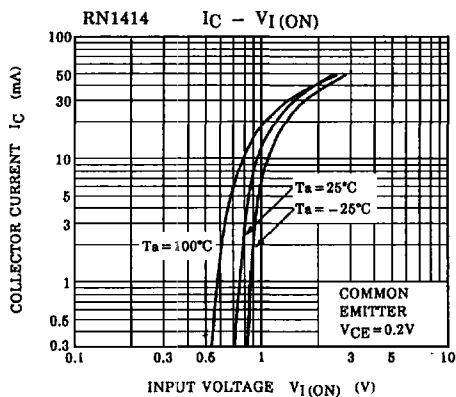
RN1414, 1415, 1416 RN1417, 1418

(RN1414)
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN1414~1418	ICBO	V _{CB} = 50V, I _E = 0	—	—	100	nA
	RN1414~1418	ICEO	V _{CE} = 50V, I _B = 0	—	—	500	nA
Emitter Cut-off Current	RN1414	IEBO	V _{EB} = 5V, I _C = 0	0.35	—	0.65	mA
	RN1415		V _{EB} = 6V, I _C = 0	0.37	—	0.71	
	RN1416		V _{EB} = 7V, I _C = 0	0.36	—	0.68	
	RN1417		V _{EB} = 15V, I _C = 0	0.78	—	1.46	
	RN1418		V _{EB} = 25V, I _C = 0	0.33	—	0.63	
DC Current Gain	RN1414~16, 18	hFE	V _{CE} = 5V, I _C = 10mA	50	—	—	
	RN1417			30	—	—	
Collector-Emitter Saturation Voltage	RN1414~1418	V _{CE (sat)}	I _C = 5mA, I _B = 0.25mA	—	0.1	0.3	V
Input Voltage (ON)	RN1414	V _{I (ON)}	V _{CE} = 0.2V, I _C = 5mA	0.6	—	2.0	V
	RN1415			0.7	—	2.5	
	RN1416			0.8	—	2.5	
	RN1417			1.5	—	3.5	
	RN1418			2.5	—	10.0	
Input Voltage (OFF)	RN1414	V _{I (OFF)}	V _{CE} = 5V, I _C = 0.1mA	0.3	—	0.9	V
	RN1415			0.3	—	1.0	
	RN1416			0.3	—	1.1	
	RN1417			0.3	—	2.3	
	RN1418			0.5	—	5.7	
Transition Frequency	RN1414~1418	f _T	V _{CE} = 10V, I _C = 5mA	—	250	—	MHz
Collector Output Capacitance	RN1414~1418	C _{ob}	V _{CB} = 10V, I _B = 0, f = 1MHz	—	3.0	6.0	pF
Input Resistor	RN1414	R ₁	—	0.7	1.0	1.3	kΩ
	RN1415			1.54	2.2	2.86	
	RN1416			3.29	4.7	6.11	
	RN1417			7.0	10.0	13.0	
	RN1418			32.9	47.0	61.1	
Resistor Ratio	RN1414	R ₁ / R ₂	—	—	0.1	—	
	RN1415			—	0.22	—	
	RN1416			—	0.47	—	
	RN1417			—	2.13	—	
	RN1418			—	4.7	—	

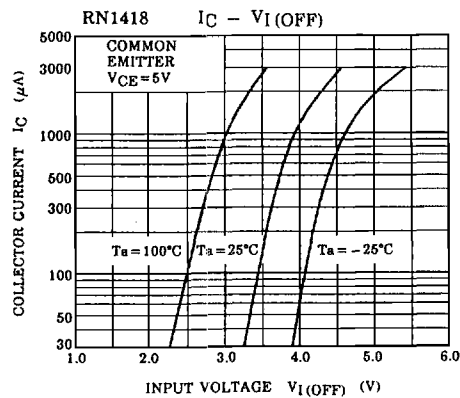
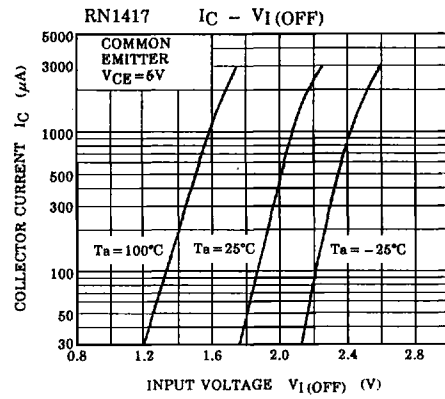
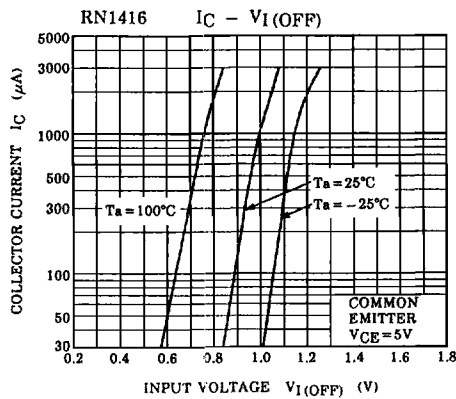
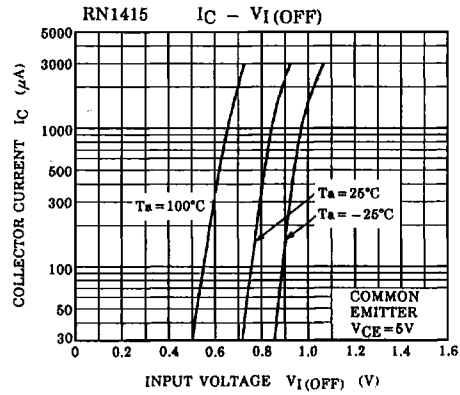
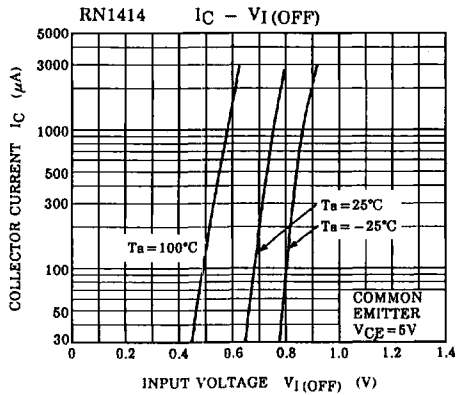
RN1414, 1415, 1416 RN1417, 1418

(RN1414)



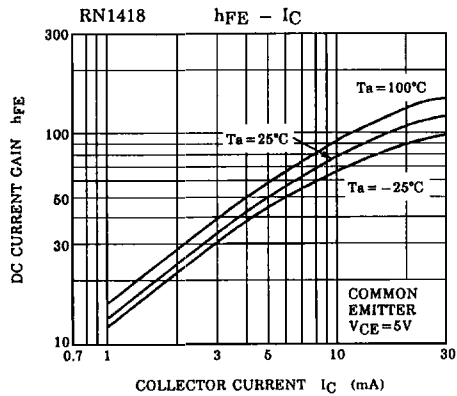
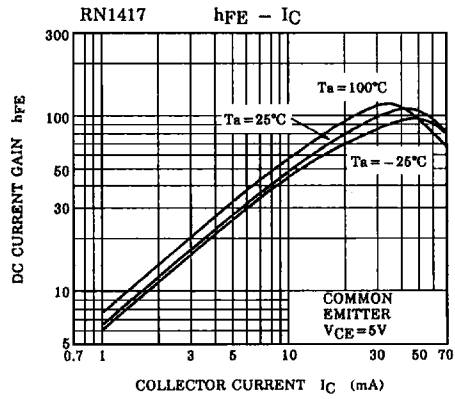
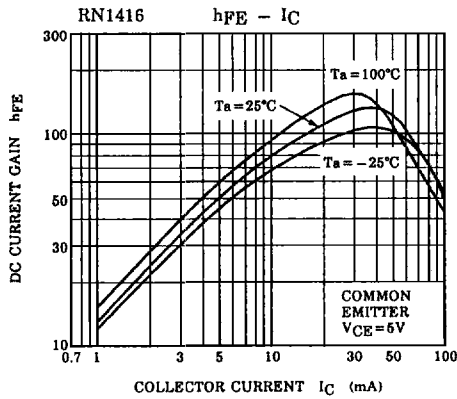
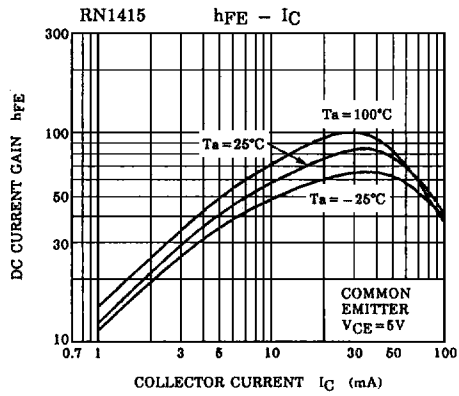
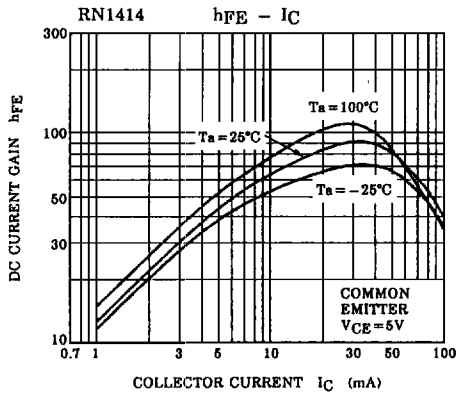
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(RN1414)



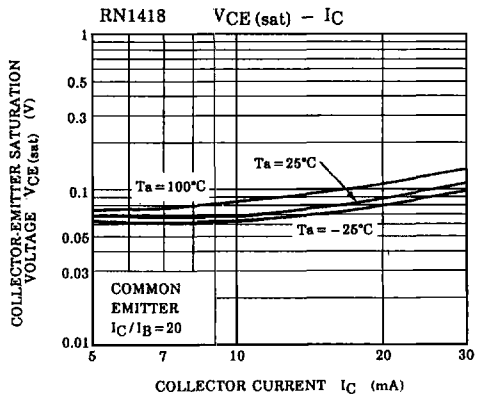
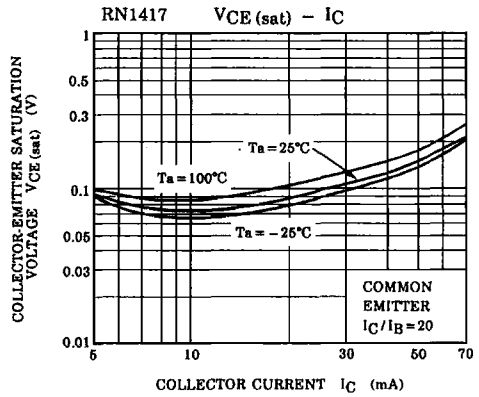
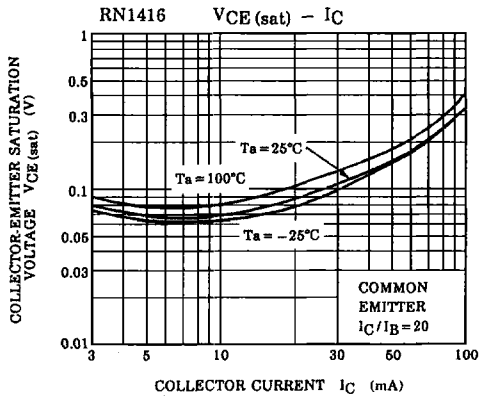
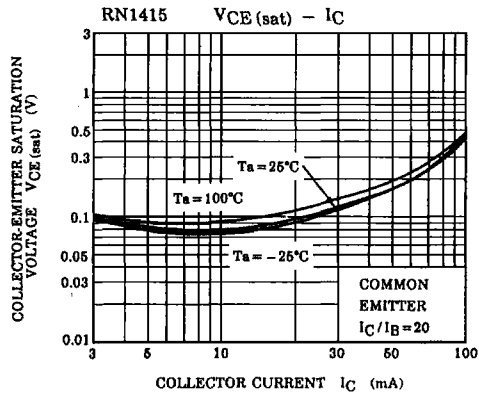
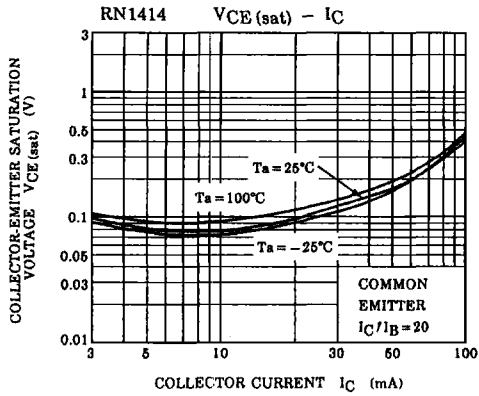
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(RN1414)



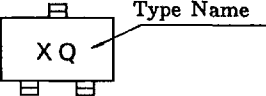
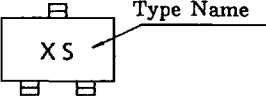
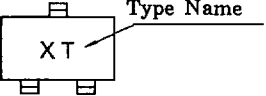
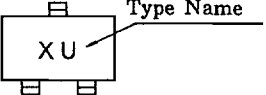
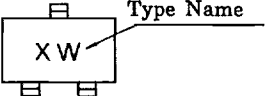
RN1414, 1415, 1416 RN1417, 1418

(RN1414)



**RN1414, 1415, 1416
RN1417, 1418**

(RN1414)

TYPE NAME	MARKING
RN1414	 A rectangular box containing the text 'XQ'. Above the box is a small square symbol with a horizontal line. Below the box are two small square symbols, one on the left and one on the right. A line points from the text 'Type Name' to the right side of the box.
RN1415	 A rectangular box containing the text 'XS'. Above the box is a small square symbol with a horizontal line. Below the box are two small square symbols, one on the left and one on the right. A line points from the text 'Type Name' to the right side of the box.
RN1416	 A rectangular box containing the text 'XT'. Above the box is a small square symbol with a horizontal line. Below the box are two small square symbols, one on the left and one on the right. A line points from the text 'Type Name' to the right side of the box.
RN1417	 A rectangular box containing the text 'XU'. Above the box is a small square symbol with a horizontal line. Below the box are two small square symbols, one on the left and one on the right. A line points from the text 'Type Name' to the right side of the box.
RN1418	 A rectangular box containing the text 'XW'. Above the box is a small square symbol with a horizontal line. Below the box are two small square symbols, one on the left and one on the right. A line points from the text 'Type Name' to the right side of the box.