

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

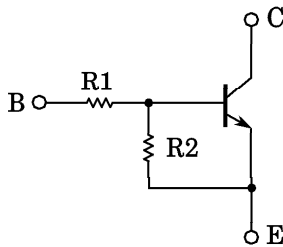
RN1907, RN1908, RN1909

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

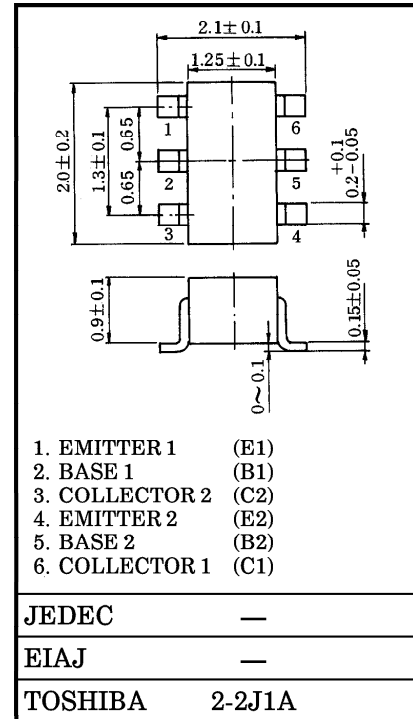
Unit in mm

- 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 RN2907~RN2909

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES

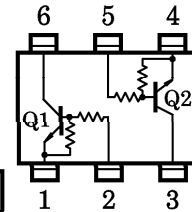


TYPE No.	R1 (kΩ)	R2 (kΩ)
RN1907	10	47
RN1908	22	47
RN1909	47	22



Weight : 6.8mg

EQUIVALENT CIRCUIT (TOP VIEW)



MAXIMUM RATINGS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	RN1907~1909	V_{CBO}	50 V
Collector-Emitter Voltage		V_{CEO}	50 V
Emitter-Base Voltage	RN1907	6	V
	RN1908	7	
	RN1909	15	
Collector Current	RN1907~1909	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

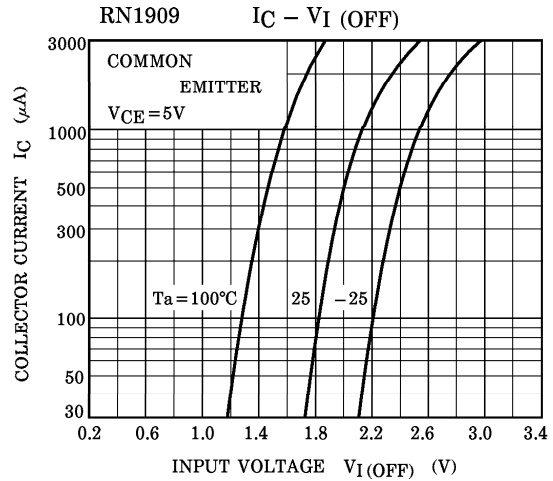
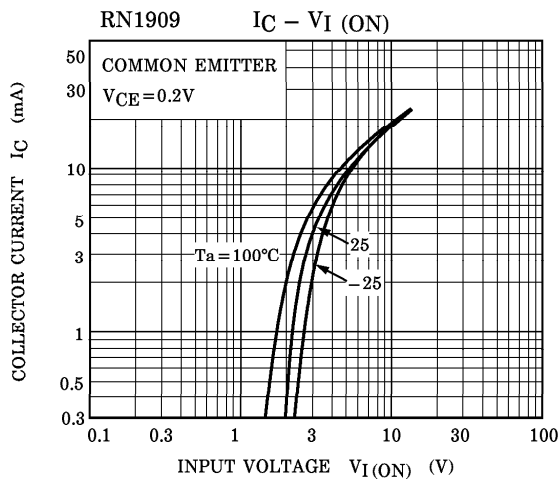
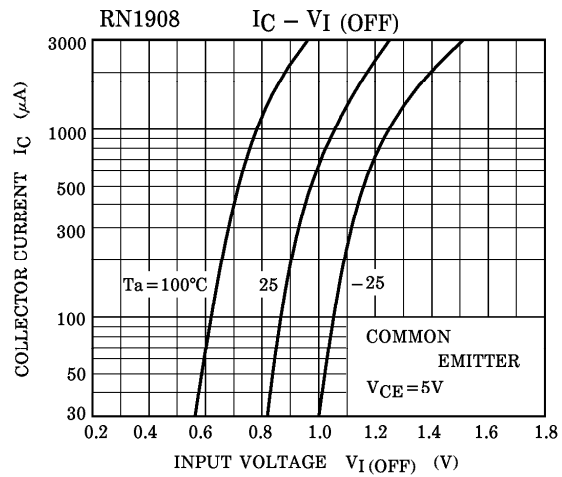
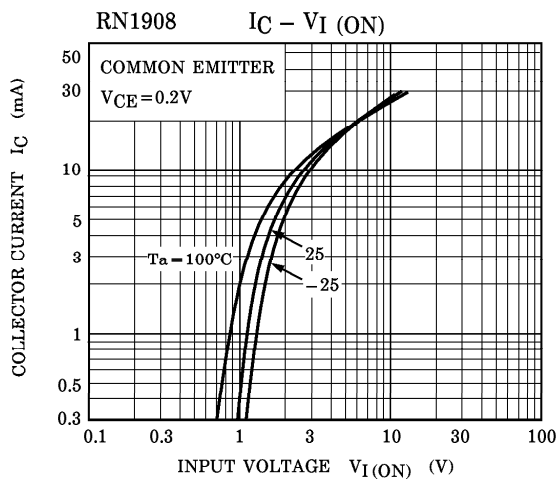
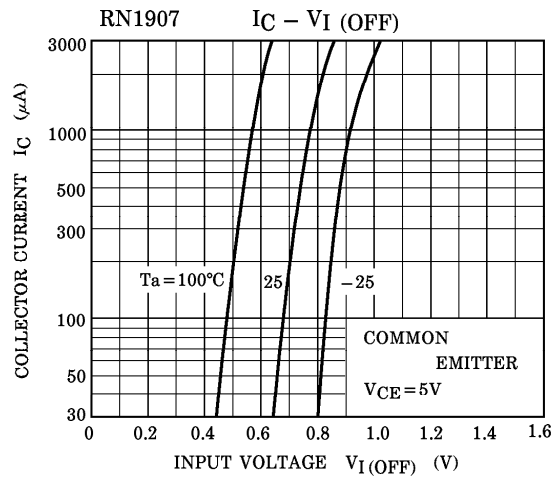
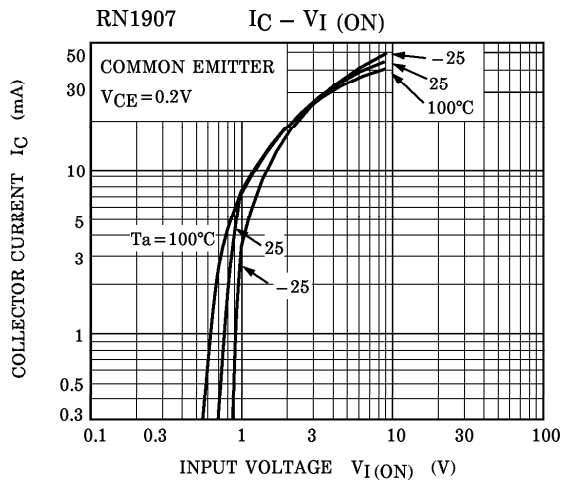
961001EAA2

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

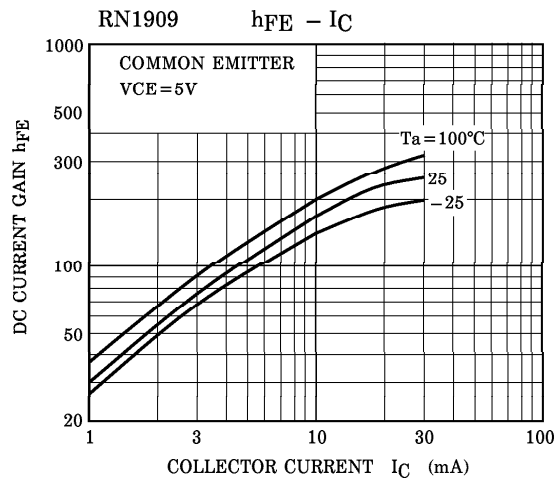
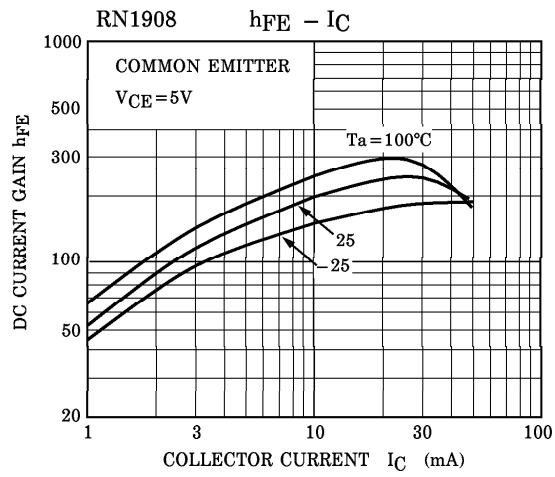
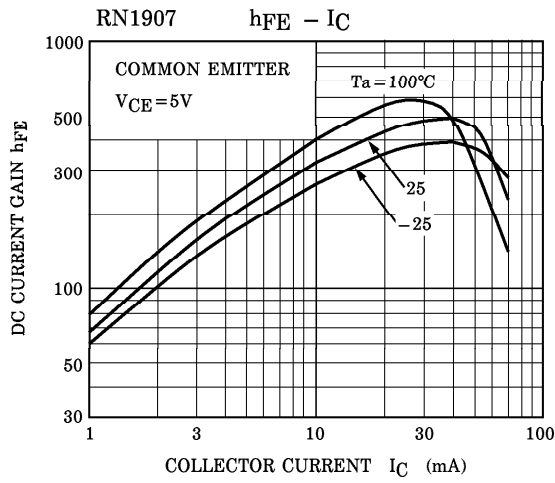
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

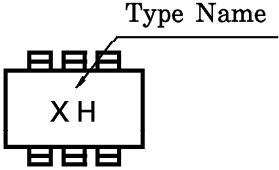
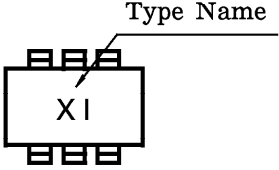
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN1907~ 1909	ICBO	V _{CB} = 50V, I _E = 0	—	—	100	nA
		ICEO	V _{CE} = 50V, I _B = 0	—	—	500	nA
Emitter Cut-off Current	RN1907	IEBO	V _{EB} = 6V, I _C = 0	0.081	—	0.15	mA
	RN1908		V _{EB} = 7V, I _C = 0	0.078	—	0.145	
	RN1909		V _{EB} = 15V, I _C = 0	0.167	—	0.311	
DC Current Gain	RN1907	h _{FE}	V _{CE} = 5V, I _C = 10mA	80	—	—	
	RN1908			80	—	—	
	RN1909			70	—	—	
Collector-Emitter Saturation Voltage	RN1907~ 1909	V _{CE (sat)}	I _C = 5mA, I _B = 0.25mA	—	0.1	0.3	V
Input Voltage (ON)	RN1907	V _{I (ON)}	V _{CE} = 0.2V, I _C = 5mA	0.7	—	1.8	V
	RN1908			1.0	—	2.6	
	RN1909			2.2	—	5.8	
Input Voltage (OFF)	RN1907	V _{I (OFF)}	V _{CE} = 5V, I _C = 0.1mA	0.5	—	1.0	V
	RN1908			0.6	—	1.16	
	RN1909			1.5	—	2.6	
Transition Frequency	RN1907~ 1909	f _T	V _{CE} = 10V, I _C = 5mA	—	250	—	MHz
Collector Output Capacitance	RN1907~ 1909	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	3	6	pF
Input Resistor	RN1907	R1		7	10	13	kΩ
	RN1908			15.4	22	28.6	
	RN1909			32.9	47	61.1	
Resistor Ratio	RN1907	R1 / R2		0.191	0.213	0.232	
	RN1908			0.421	0.468	0.515	
	RN1909			1.92	2.14	2.35	

(Q1, Q2 COMMON)



(Q1, Q2 COMMON)



TYPE NAME	MARKING
RN1907	
RN1908	
RN1909	