

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

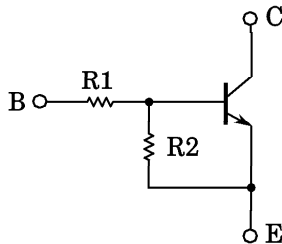
RN1507, RN1508, RN1509

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

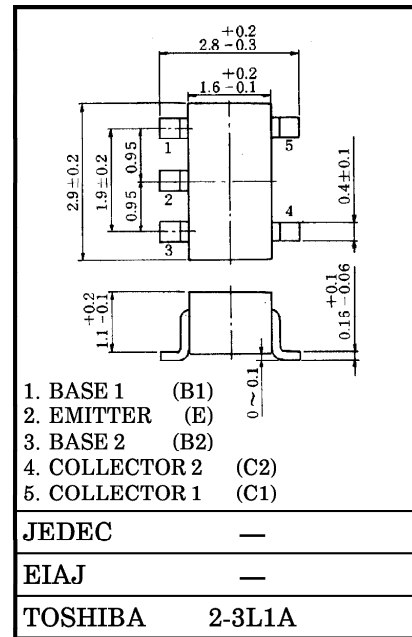
Unit in mm

- Including Two Devices in SMV (Super Mini Type with 5 leads)
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN2507~2509

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES

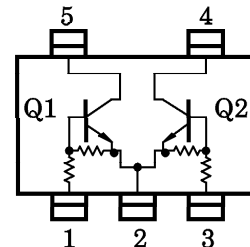


TYPE No.	R1 (kΩ)	R2 (kΩ)
RN1907	10	47
RN1908	22	47
RN1909	47	22



Weight : 0.014g

EQUIVALENT CIRCUIT (TOP VIEW)



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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	RN1507~1509	V_{CBO}	50 V
Collector-Emitter Voltage		V_{CEO}	50 V
Emitter-Base Voltage	RN1507	V_{EBO}	6 V
	RN1508		7 V
	RN1509		15 V
Collector Current	RN1507~1509	I_C	100 mA
Collector Power Dissipation		P_C^*	300 mW
Junction Temperature		T_j	150 °C
Storage Temperature Range		T_{stg}	-55~150 °C

* : Total Rating

961001EAA2

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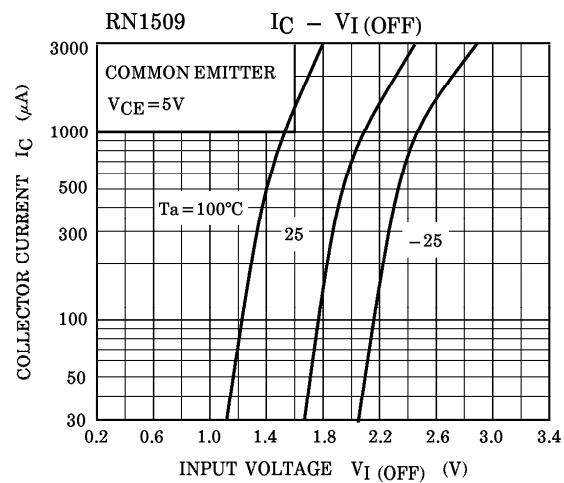
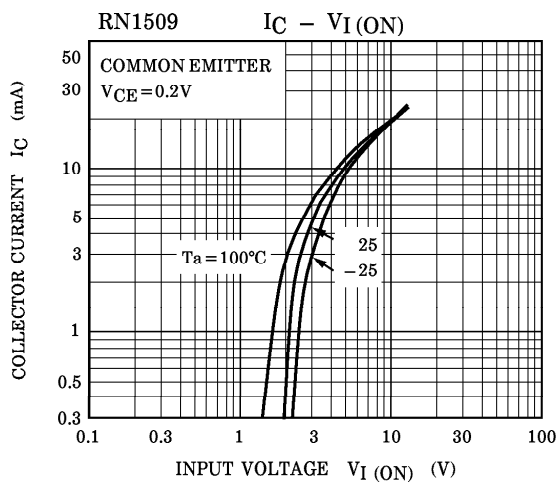
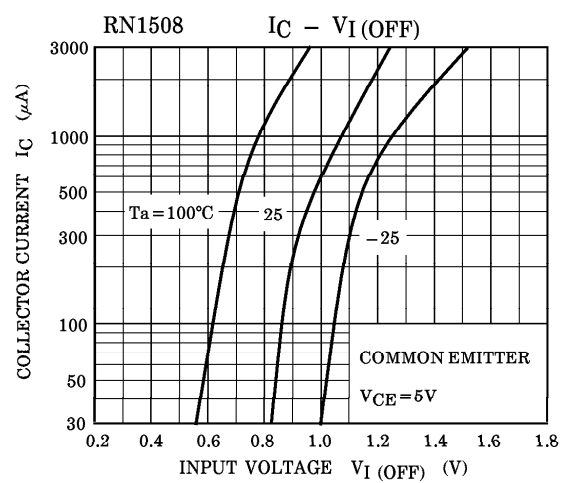
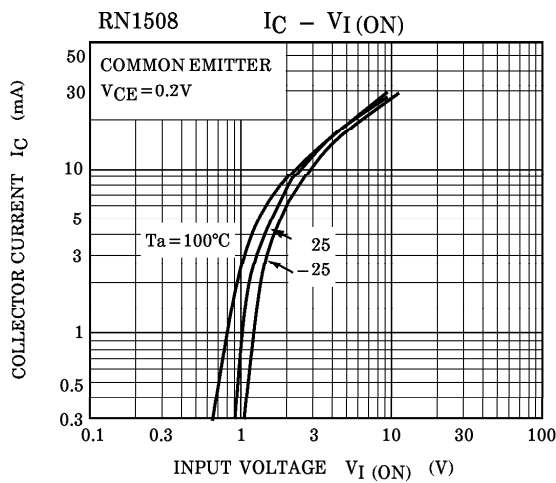
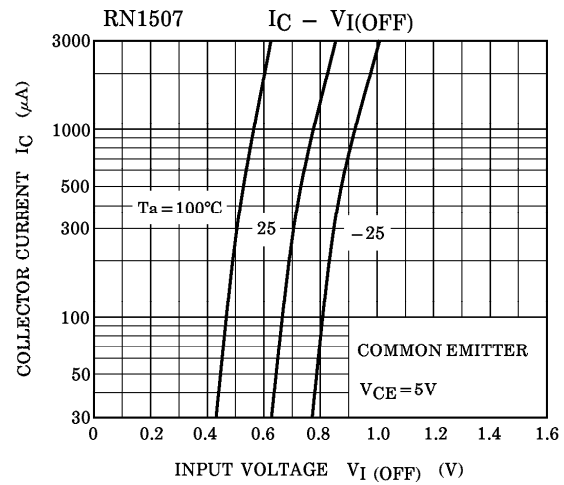
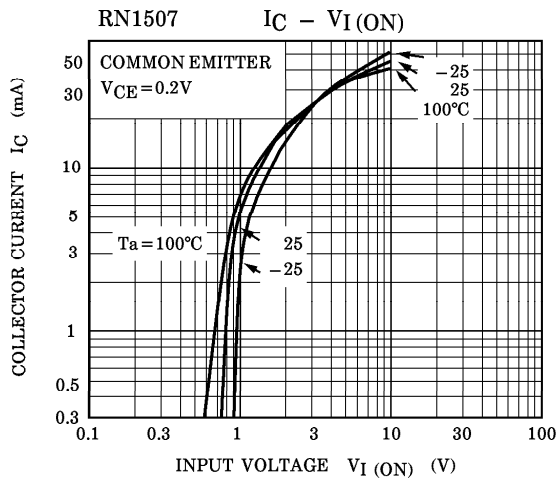
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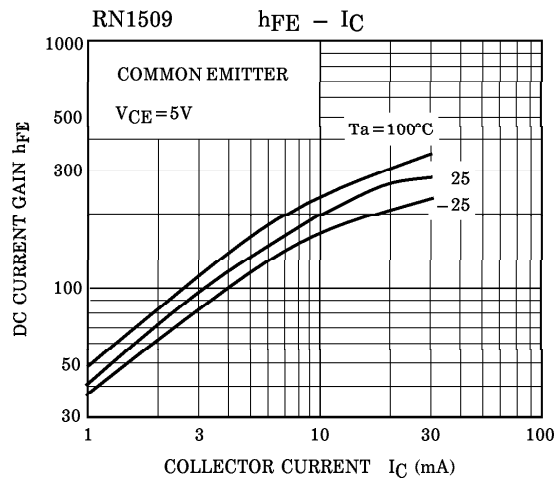
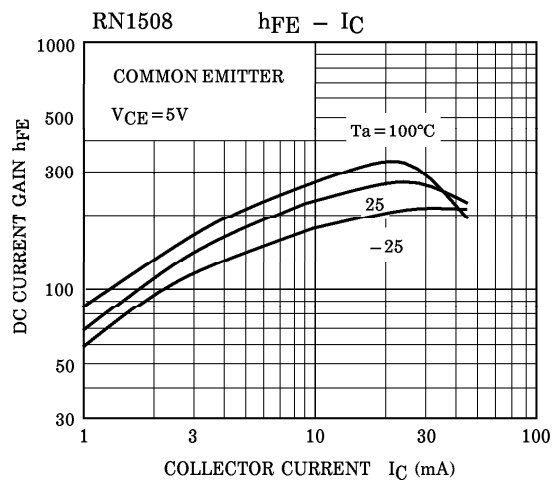
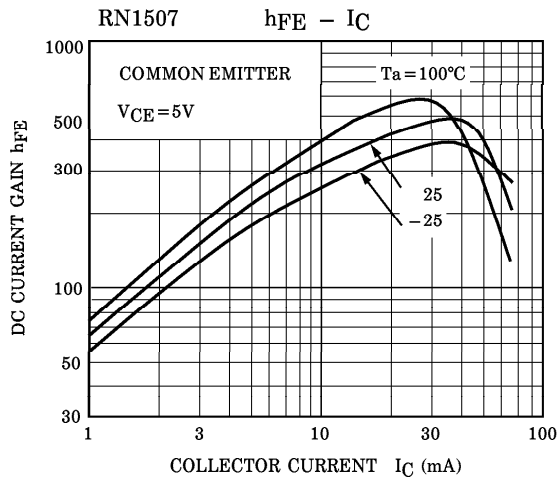
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

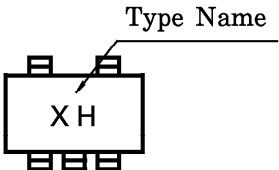
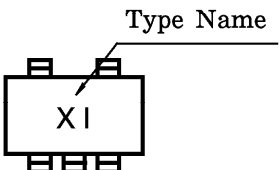
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN1507~ 1509	I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	100	nA
		I_{CEO}	$V_{CE} = 50V, I_B = 0$	—	—	500	nA
Emitter Cut-off Current	RN1507	I_{EBO}	$V_{EB} = 6V, I_C = 0$	0.081	—	0.15	mA
	RN1508		$V_{EB} = 7V, I_C = 0$	0.078	—	0.145	
	RN1509		$V_{EB} = 15V, I_C = 0$	0.167	—	0.311	
DC Current Gain	RN1507	h_{FE}	$V_{CE} = 5V,$ $I_C = 10mA$	80	—	—	
	RN1508			80	—	—	
	RN1509			70	—	—	
Collector-Emitter Saturation Voltage	RN1507~ 1509	$V_{CE(sat)}$	$I_C = 5mA$ $I_B = 0.25mA$	—	0.1	0.3	V
Input Voltage (ON)	RN1507	$V_{I(ON)}$	$V_{CE} = 0.2V$ $I_C = 5mA$	0.7	—	1.8	V
	RN1508			1.0	—	2.6	
	RN1509			2.2	—	5.8	
Input Voltage (OFF)	RN1507	$V_{I(OFF)}$	$V_{CE} = 5V$ $I_C = 0.1mA$	0.5	—	1.0	V
	RN1508			0.6	—	1.16	
	RN1509			1.5	—	2.6	
Transition Frequency	RN1507~ 1509	f_T	$V_{CE} = 10V,$ $I_C = 5mA$	—	250	—	MHz
Collector Output Capacitance	RN1507~ 1509	C_{ob}	$V_{CB} = 10V, I_E = 0,$ $f = 1MHz$	—	3	6	pF
Input Resistor	RN1507	R1		7	10	13	k Ω
	RN1508			15.4	22	28.6	
	RN1509			32.9	47	61.1	
Resistor Ratio	RN1507	R1 / R2		0.191	0.213	0.232	
	RN1508			0.421	0.468	0.515	
	RN1509			1.92	2.14	2.35	

(Q1, Q2 COMMON)



(Q1, Q2 COMMON)



TYPE NAME	MARKING
RN1507	
RN1508	
RN1509	