

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

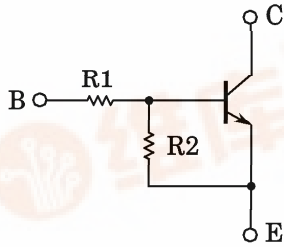
RN1507, RN1508, RN1509

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

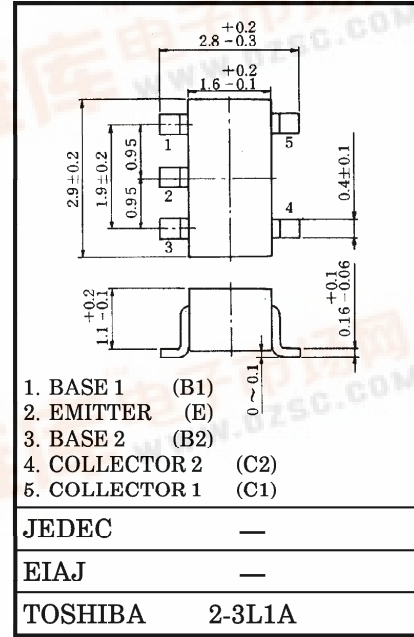
Unit in mm

- 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

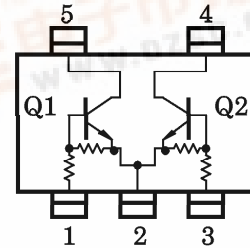


TYPE No.	R1 (kΩ)	R2 (kΩ)
RN1907	10	47
RN1908	22	47
RN1909	47	22



Weight : 0.014g

EQUIVALENT CIRCUIT (TOP VIEW)



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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN1507~1509	VCBO	50	V
Collector-Emitter Voltage		VCEO	50	V
Emitter-Base Voltage	RN1507	VEBO	6	V
	RN1508		7	
	RN1509		15	
Collector Current	RN1507~1509	IC	100	mA
Collector Power Dissipation		PC*	300	mW
Junction Temperature		Tj	150	°C
Storage Temperature Range		Tstg	-55~150	°C

* : Total Rating

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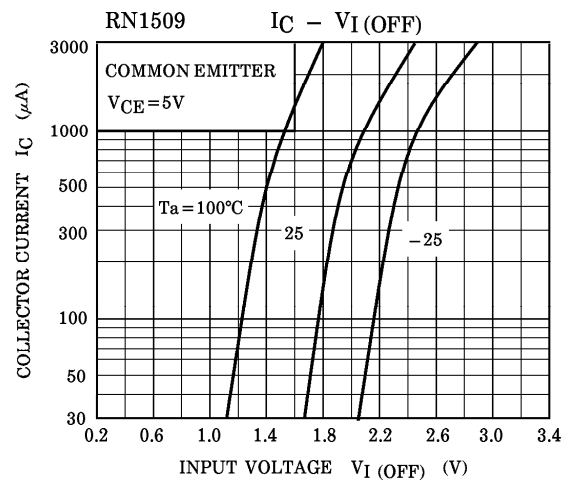
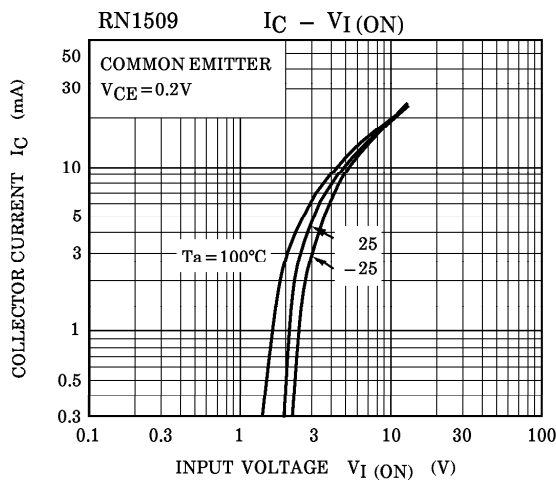
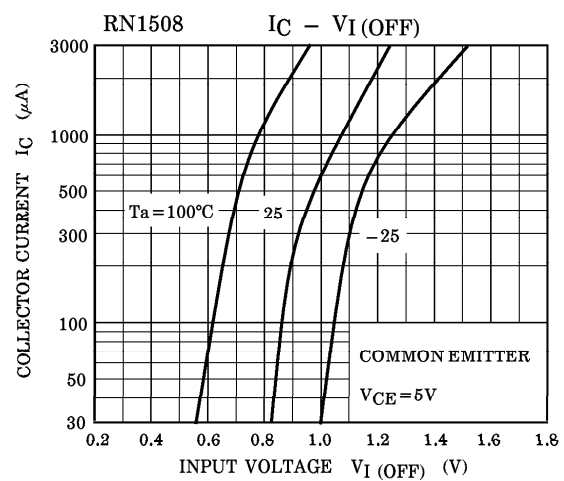
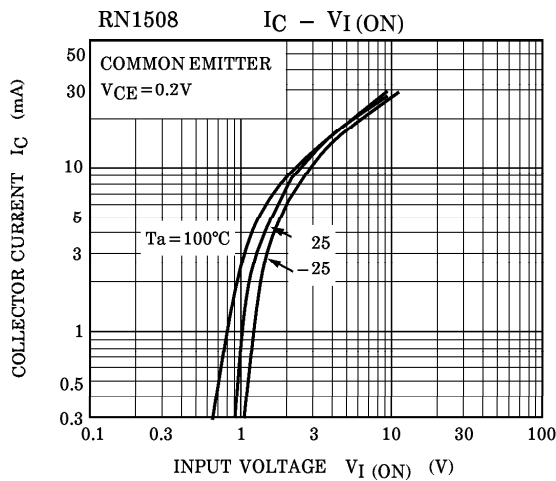
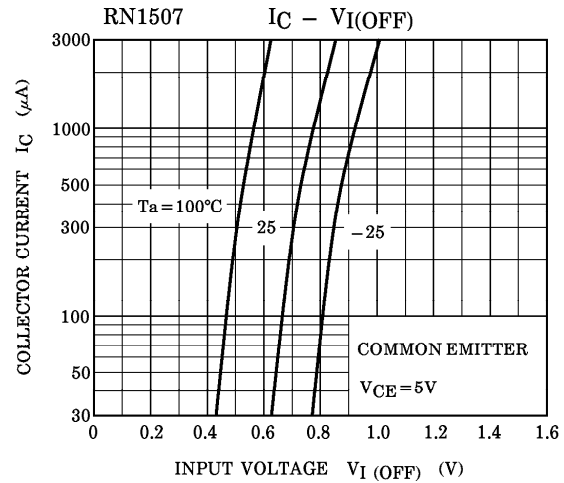
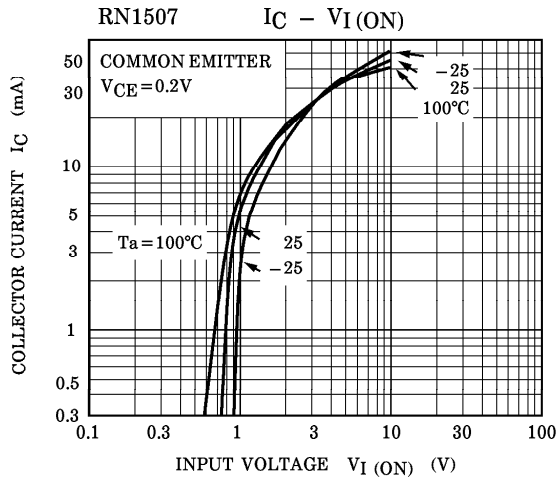
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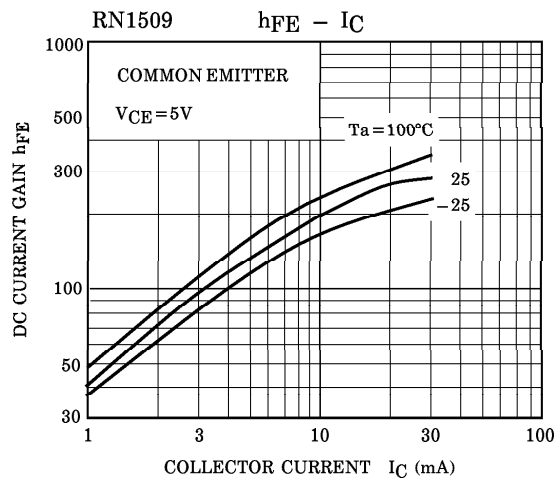
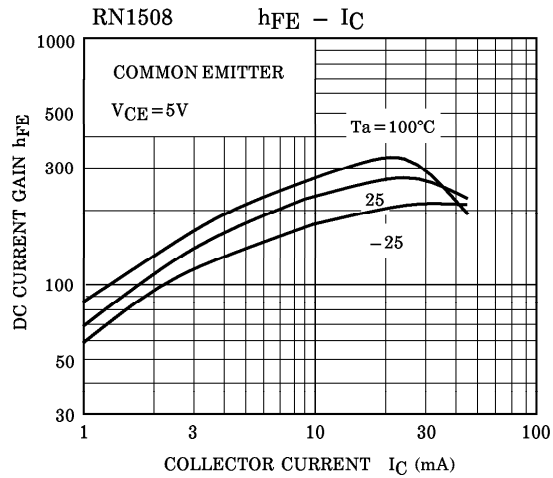
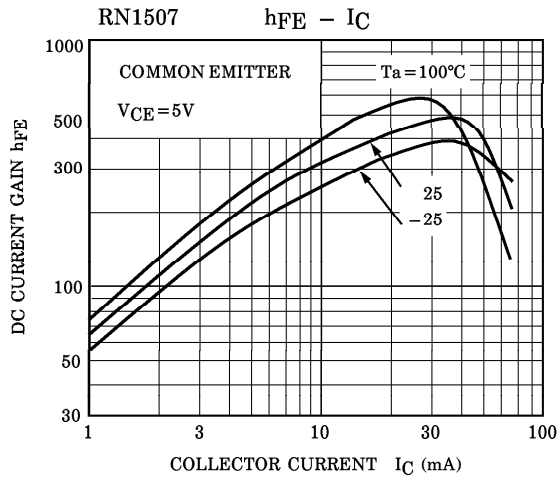
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

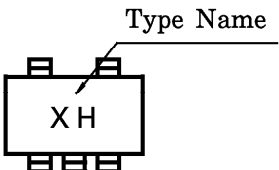
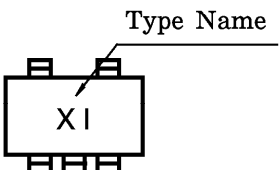
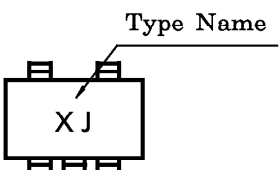
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	RN1507~ 1509	ICBO	V _{CB} = 50V, I _E = 0	—	—	100	nA	
		ICEO	V _{CE} = 50V, I _B = 0	—	—	500	nA	
Emitter Cut-off Current	RN1507	IEBO	V _{EB} = 6V, I _C = 0	0.081	—	0.15	mA	
	RN1508			V _{EB} = 7V, I _C = 0	0.078	—		0.145
	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	kΩ	
	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	 The diagram shows a rectangular component with two pins on top and three pins on the bottom. The marking 'XH' is centered on the component. A line points from the text 'Type Name' to the 'H' in 'XH'.
RN1508	 The diagram shows a rectangular component with two pins on top and three pins on the bottom. The marking 'XI' is centered on the component. A line points from the text 'Type Name' to the 'I' in 'XI'.
RN1509	 The diagram shows a rectangular component with two pins on top and three pins on the bottom. The marking 'XJ' is centered on the component. A line points from the text 'Type Name' to the 'J' in 'XJ'.