TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

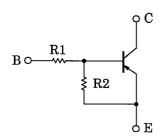
RN2307,RN2308,RN2309

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 RN1307~RN1309

Equivalent Circuit

Bias Resistor Values



Type No.	R1 (kΩ)	R2 (kΩ)
RN2307	10	47
RN2308	22	47
RN2309	47	22

1. BASE 2. EMITTER 3. COLLECTOR JEDEC — EIAJ SC-70 TOSHIBA 2-2E1A

Weight: 0.006g

Maximum Ratings (Ta = 25°C)

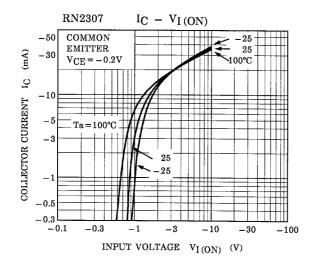
Characteristic		Symbol	Rating	Unit	
Collector-base voltage		V _{CBO}	-50	V	
Collector-emitter voltage		V _{CEO}	-50	V	
	RN2307		-6	٧	
Emitter-base voltage	RN2308	V _{EBO}	-7		
	RN2309		-15		
Collector current		I _C	-100	mA	
Collector power dissipation		PC	100	mW	
Junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	-55~150	°C	

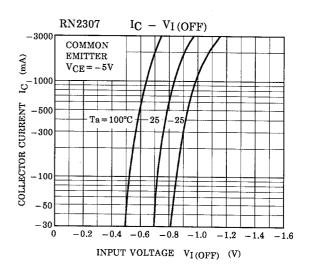


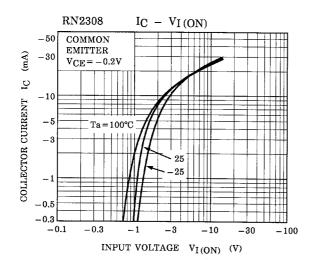
Electrical Characteristics (Ta = 25°C)

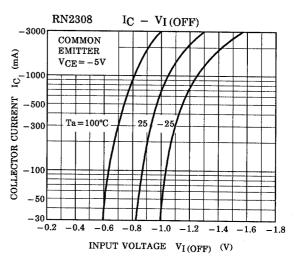
Characteristic	:	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current		I _{CBO}	_	$V_{CB} = -50V, I_{E} = 0$	_	_	-100	nA
		I _{CEO}	_	$V_{CE} = -50V, I_B = 0$		_	-500	
	RN2307		_	$V_{EB} = -6V, I_C = 0$	-0.081	-	-0.15	
Emitter cut-off current	RN2308	I _{EBO}		$V_{EB} = -7V, I_C = 0$	-0.078	1	-0.145	mA
	RN2309			$V_{EB} = -15V, I_C = 0$	-0.167	1	-0.311	
	RN2307	h _{FE}	_	V _{CE} = -5V, I _C = -10mA	80	1	_	_
DC current gain	RN2308		_		80	_	_	
	RN2309		_		70	_	_	
Collector-emitter saturation	n voltage	V _{CE (sat)}	_	$I_C = -5mA$, $I_B = -0.25mA$	_	-0.1	-0.3	V
Input voltage (ON)	RN2307	V _{I (ON)}	_	V _{CE} = -0.2V, I _C = -5mA	-0.7	_	-1.8	V
	RN2308		_		-1.0	_	-2.6	
	RN2309		_		-2.2	_	-5.8	
	RN2307	V _{I (OFF)}	_	V _{CE} = -5V, I _C = -0.1mA	-0.5	_	-1.0	V
Input voltage (OFF)	RN2308		_		-0.6	_	-1.16	
	RN2309		_		-1.5	_	-2.6	
Translation frequency		f _T	_	V _{CE} = −10V, I _C = −5mA	_	200	_	MHz
Collector output capacitand	ce	C _{ob}	_	V _{CB} = -10V, I _E = 0, f = 1MHz	_	3	6	pF
Input resistor	RN2307	R1	_	_	7	10	13	kΩ
	RN2308		_		15.4	22	28.6	
	RN2309		_		32.9	47	61.1	
	RN2307		_		0.191	0.213	0.232	
Resistor ratio	RN2308	R1/R2	_	_	0.421	0.468	0.515	_
	RN2309		_		1.92	2.14	2.35	

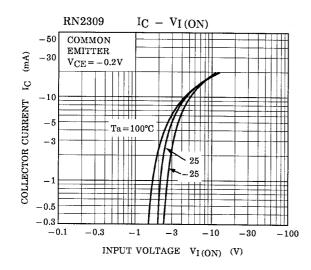
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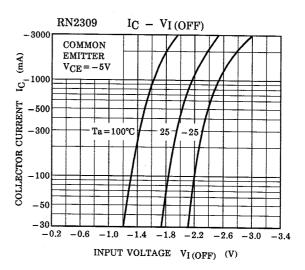


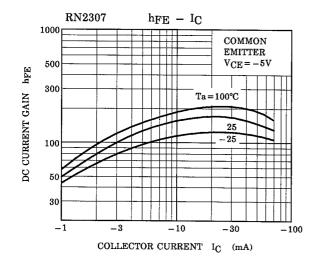


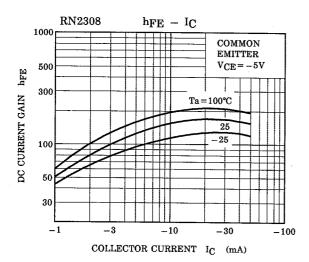


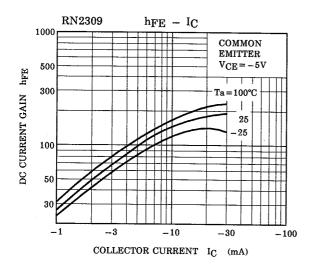












Type Name	Marking
RN2307	Type Name Y H
RN2308	Type Name Y I
RN2309	Type Name Y J

2001-06-07

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RESTRICTIONS ON PRODUCT USE

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