

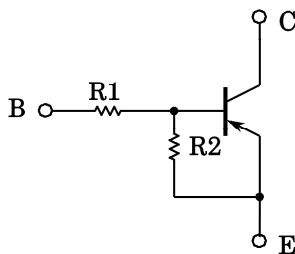
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

RN2207, RN2208, RN2209

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT AND DRIVER
CIRCUIT APPLICATIONS

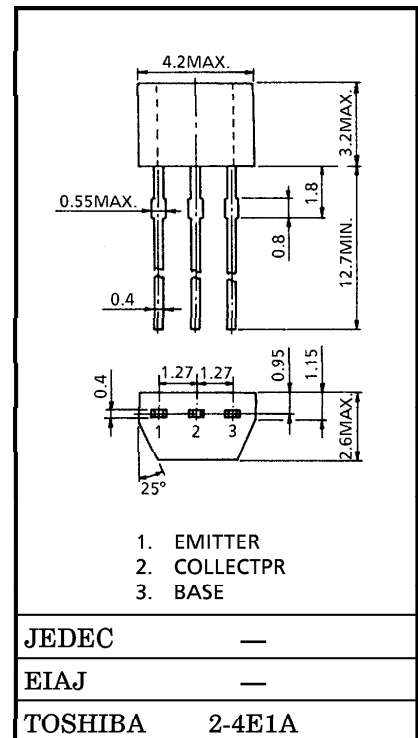
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1207~RN1209

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R1 (kΩ)	R2 (kΩ)
RN2207	10	47
RN2208	22	47
RN2209	47	22

Unit in mm



Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CE0}	-50	V
Emitter-Base Voltage	V _{EB0}	-6	V
		-7	
		-15	
Collector Current	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

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	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	
Emitter Cut-off Current	RN2207	I_{EBO}	$V_{EB} = -6V, I_C = 0$	-0.081	—	-0.15	mA
	RN2208		$V_{EB} = -7V, I_C = 0$	-0.078	—	-0.145	
	RN2209		$V_{EB} = -15V, I_C = 0$	-0.167	—	-0.311	
DC Current Gain	RN2207	h_{FE}	$V_{CE} = -5V, I_C = -10mA$	80	—	—	
	RN2208			80	—	—	
	RN2209			70	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = -5mA, I_B = -0.25mA$	—	-0.1	-0.3	V
Input Voltage (ON)	RN2207	$V_I(ON)$	$V_{CE} = -0.2V, I_C = -5mA$	-0.7	—	-1.8	V
	RN2208			-1.0	—	-2.6	
	RN2209			-2.2	—	-5.8	
Input Voltage (OFF)	RN2207	$V_I(OFF)$	$V_{CE} = -5V, I_C = -0.1mA$	-0.5	—	-1.0	V
	RN2208			-0.6	—	-1.16	
	RN2209			-1.5	—	-2.6	
Transition Frequency		f_T	$V_{CE} = -10V, I_C = -5mA$	—	200	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	3	6	pF
Input Resistor	RN2207	R1		7	10	13	k Ω
	RN2208			15.4	22	28.6	
	RN2209			32.9	47	61.1	
Resistor Ratio	RN2207	R1 / R2		0.191	0.213	0.232	
	RN2208			0.421	0.468	0.515	
	RN2209			1.92	2.14	2.35	

