

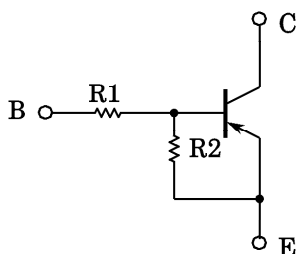
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

**RN2201, RN2202, RN2203
RN2204, RN2205, RN2206**

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT AND DRIVER
CIRCUIT APPLICATIONS

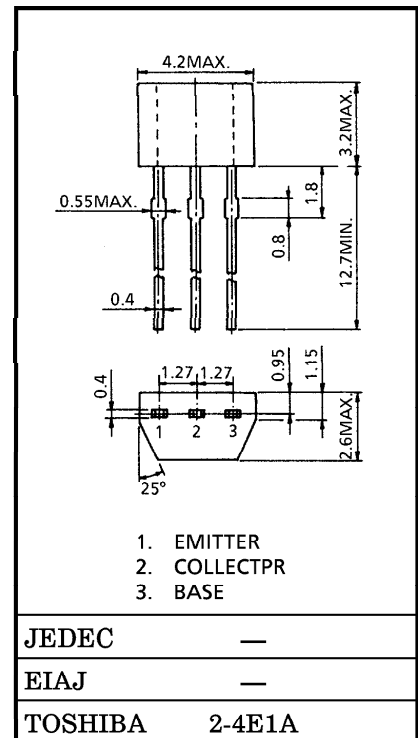
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1201~RN1206

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R1 (kΩ)	R2 (kΩ)
RN2201	4.7	4.7
RN2202	10	10
RN2203	22	22
RN2204	47	47
RN2205	2.2	47
RN2206	4.7	47

Unit in mm



Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2201~2206	VCBO	-50 V
Collector-Emitter Voltage		VCEO	-50 V
Emitter-Base Voltage	RN2201~2204	VEBO	-10 V
	RN2205, 2206		-5 V
Collector Current	RN2201~2206	IC	-100 mA
Collector Power Dissipation		PC	300 mW
Junction Temperature		Tj	150 °C
Storage Temperature Range		Tstg	-55~150 °C

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2201~2206	ICBO	V _{CB} = -50V, I _E = 0	—	—	-100	nA
		ICEO	V _{CE} = -50V, I _B = 0	—	—	-500	
Emitter Cut-off Current	RN2201	I _{EBO}	V _{EB} = -10V, I _C = 0	-0.82	—	-1.52	mA
	RN2202			-0.38	—	-0.71	
	RN2203			-0.17	—	-0.33	
	RN2204			-0.082	—	-0.15	
	RN2205		V _{EB} = -5V, I _C = 0	-0.078	—	-0.145	
	RN2206			-0.074	—	-0.138	
DC Current Gain	RN2201	h _{FE}	V _{CE} = -5V, I _C = -10mA	30	—	—	
	RN2202			50	—	—	
	RN2203			70	—	—	
	RN2204			80	—	—	
	RN2205			80	—	—	
	RN2206			80	—	—	
Collector-Emitter Saturation Voltage	RN2201~2206	V _{CE(sat)}	I _C = -5mA, I _B = -0.25mA	—	-0.1	-0.3	V
Input Voltage (ON)	RN2201	V _{I(ON)}	V _{CE} = -0.2V, I _C = -5mA	-1.1	—	-2.0	V
	RN2202			-1.2	—	-2.4	
	RN2203			-1.3	—	-3.0	
	RN2204			-1.5	—	-5.0	
	RN2205			-0.6	—	-1.1	
	RN2206			-0.7	—	-1.3	
Input Voltage (OFF)	RN2201~2204	V _{I(OFF)}	V _{CE} = -5V, I _C = -0.1mA	-1.0	—	-1.5	V
	RN2205, 2206			-0.5	—	-0.8	
Transition Frequency	RN2201~2206	f _T	V _{CE} = -10V, I _C = -5mA	—	200	—	MHz
Collector Output Capacitance	RN2201~2206	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz	—	3	6	pF
Input Resistor	RN2201	R ₁		3.29	4.7	6.11	kΩ
	RN2202			7	10	13	
	RN2203			15.4	22	28.6	
	RN2204			32.9	47	61.1	
	RN2205			1.54	2.2	2.86	
	RN2206			3.29	4.7	6.11	
Resistor Ratio	RN2201~2204	R ₁ / R ₂		0.9	1.0	1.1	
	RN2205			0.0421	0.0468	0.0515	
	RN2206			0.09	0.1	0.11	

