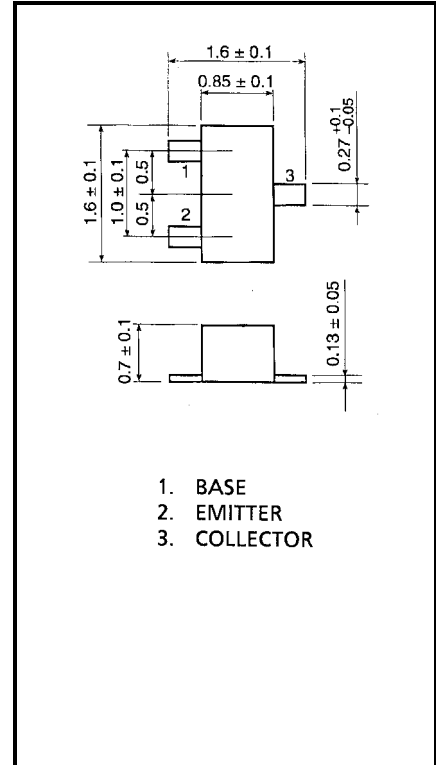


**RN1101F,RN1102F,RN1103F  
RN1104F,RN1105F,RN1106F**

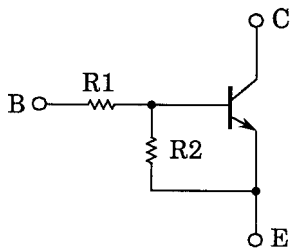
Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN2101F~RN2106F

Unit in mm



**Equivalent Circuit And Bias Resister Values**



Type No.	R1 (kΩ)	R2 (kΩ)
RN1101F	4.7	4.7
RN1102F	10	10
RN1103F	22	22
RN1104F	47	47
RN1105F	2.2	47
RN1106F	4.7	47

**Maximum Ratings (Ta = 25°C)**

Weight: 2.3 mg

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	50	V
Collector-emitter voltage			
Emitter-base voltage	V <sub>EBO</sub>	10	V
		5	
Collector current	I <sub>C</sub>	100	mA
Collector power dissipation	P <sub>C</sub>	100	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C

**RN1101F,RN1102F,RN1103F  
RN1104F,RN1105F,RN1106F**

**Electrical Characteristics (Ta = 25°C)**

Characteristic		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	RN1101F ~1106F	$I_{CBO}$	—	$V_{CB} = 50V, I_E = 0$	—	—	100	nA
		$I_{CEO}$		$V_{CE} = 50V, I_B = 0$	—	—	500	
Emitter cut-off current	RN1101F	$I_{EBO}$	—	$V_{EB} = 10V, I_C = 0$	0.82	—	1.52	mA
	RN1102F				0.38	—	0.71	
	RN1103F				0.17	—	0.33	
	RN1104F			0.082	—	0.15		
	RN1105F			$V_{EB} = 5V, I_C = 0$	0.078	—	0.145	
	RN1106F				0.074	—	0.138	
DC current gain	RN1101F	$h_{FE}$	—	$V_{CE} = 5V, I_C = 10mA$	30	—	—	—
	RN1102F				50	—	—	
	RN1103F				70	—	—	
	RN1104F				80	—	—	
	RN1105F				80	—	—	
	RN1106F				80	—	—	
Collector-emitter saturation voltage	RN1101F ~1106F	$V_{CE(sat)}$	—	$I_C = 5mA, I_B = 0.25mA$	—	0.1	0.3	V
Input voltage (ON)	RN1101F	$V_{I(ON)}$	—	$V_{CE} = 0.2V, I_C = 5mA$	1.1	—	2.0	V
	RN1102F				1.2	—	2.4	
	RN1103F				1.3	—	3.0	
	RN1104F				1.5	—	5.0	
	RN1105F				0.6	—	1.1	
	RN1106F				0.7	—	1.3	
Input voltage (OFF)	RN1101F ~1104F	$V_{I(OFF)}$	—	$V_{CE} = 5V, I_C = 0.1mA$	1.0	—	1.5	V
	RN1105F, 1106F				0.5	—	0.8	
Transition frequency	RN1101F ~1106F	$f_T$	—	$V_{CE} = 10V, I_C = 5mA$	—	250	—	MHz
Collector Output capacitance	RN1101F ~1106F	$C_{ob}$	—	$V_{CB} = 10V, I_E = 0,$ $f = 1MHz$	—	3	6	pF
Input resistor	RN1101F	R1	—	—	3.29	4.7	6.11	kΩ
	RN1102F				7	10	13	
	RN1103F				15.4	22	28.6	
	RN1104F				32.9	47	61.1	
	RN1105F				1.54	2.2	2.86	
	RN1106F				3.29	4.7	6.11	
Resistor ratio	RN1101F ~1104F	R1/R2	—	—	0.9	1.0	1.1	
	RN1105F				0.0421	0.0468	0.0515	
	RN1106F				0.09	0.1	0.11	