TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

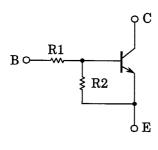
RN2401,RN2402,RN2403 RN2404,RN2405,RN2406

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 RN1401~1406

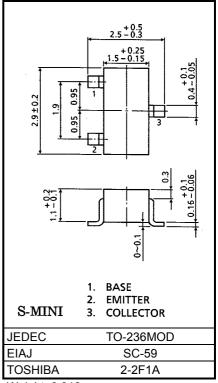
Equivalent Circuit

Bias Resistor Values



Type No.	R1 (kΩ)	R2 (kΩ)
RN2401	4.7	4.7
RN2402	10	10
RN2403	22	22
RN2404	47	47
RN2405	2.2	47
RN2406	4.7	47

Unit: mm



Weight: 0.012g

Maximum Ratings (Ta = 25°C)

Characteristi	Symbol	Rating	Unit	
Collector-base voltage	RN2401~2406	V _{CBO}	-50	V
Collector-emitter voltage	KN2401*2400	V _{CEO}	-50	V
Emitter-base voltage	RN2401~2404	\/	-10	V
	RN2405, 2406	V _{EBO}	-5	V
Collector current		IC	-100	mA
Collector power dissipation	RN2401~2406	PC	200	mW
Junction temperature	KIN2401~2400	Tj	150	°C
Storage temperature range		T _{stg}	-55~150	°C

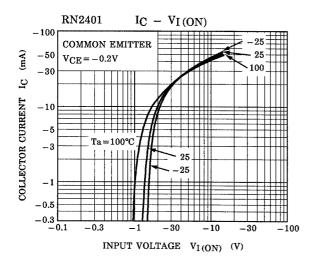
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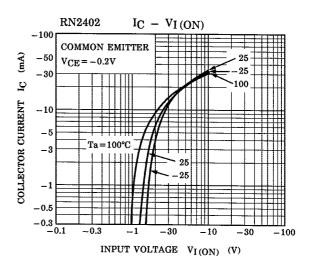


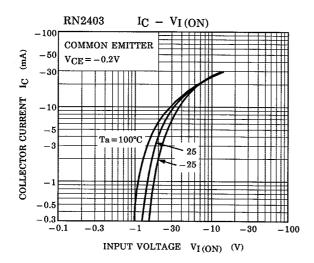
Electrical Characteristics (Ta = 25°C)

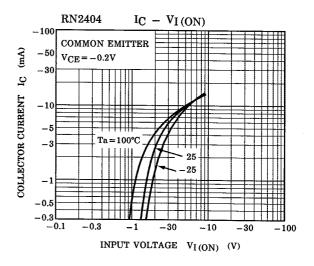
Characteris	tic	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	RN2401~2406	I _{CBO}	_	$V_{CB} = -50V, I_{E} = 0$	_		-100	nA
		I _{CEO}	_	$V_{CE} = -50V, I_B = 0$	_	_	-500	
Emitter cut-off current	RN2401	I _{EBO}	_	V _{EB} = -10V, I _C = 0	-0.82	_	-1.52	- mA
	RN2402		_		-0.38	_	-0.71	
	RN2403		_		-0.17	_	-0.33	
	RN2404		_		-0.082	_	-0.15	
	RN2405		_	V _{EB} = −5V, I _C = 0	-0.078	_	-0.145	
	RN2406		_		-0.074	_	-0.138	
	RN2401		_		30	_	_	
	RN2402		_	1	50	_	_	
DC aumant main	RN2403	L	_	V _{CE} = −5V	70	_	_	
DC current gain	RN2404	h _{FE}	_	I _C = -10mA	80	_	_	_
	RN2405		_		80	_	_	
	RN2406		_	-	80	_	_	
Collector-emitter saturation voltage	RN2401~2406	V _{CE (sat)}	_	$I_{C} = -5mA$ $I_{B} = -0.25mA$	_	-0.1	-0.3	V
Input voltage (ON)	RN2401	VI (ON)	_	V _{CE} = -0.2V I _C = -5mA	-1.1	_	-2.0	V
	RN2402		_		-1.2	_	-2.4	
	RN2403		_		-1.3	_	-3.0	
	RN2404		_		-1.5	_	-5.0	
	RN2405		_		-0.6	_	-1.1	
	RN2406		_		-0.7	_	-1.3	
Input voltage (OFF)	RN2401~2404	V _{I (OFF)}	_	$V_{CE} = -5V,$ $I_{C} = -0.1 \text{mA}$ -1.0 -0.5 -0.5	_	-1.5	V	
input voltage (OFF)	RN2405, 2406		_		-0.5	-	-0.8	V
Translation frequency	RN2401~2406	f_{T}	_	V _{CE} = -10V, I _C = -5mA	_	200	_	MHz
Collector output capacitance	RN2401~2406	C _{ob}	_	V _{CB} = -10V, I _E = 0 f = 1MHz	_	3	6	pF
Input resistor	RN2401	R1	_		3.29	4.7	6.11	- kΩ
	RN2402		_		7	10	13	
	RN2403		_		15.4	22	28.6	
	RN2404		_		32.9	47	61.1	
	RN2405		_		1.54	2.2	2.86	
	RN2406		_		3.29	4.7	6.11	
Resistor ratio	RN2401~2404	R1/R2	_	_	0.9	1.0	1.1	_
	RN2405		_		0.0421	0.0468	0.0515	
	RN2406		_		0.09	0.1	0.11	

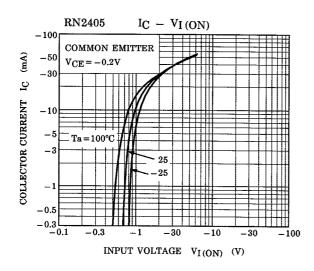
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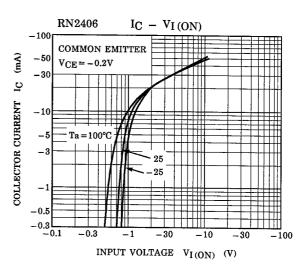


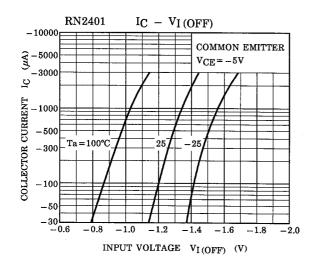


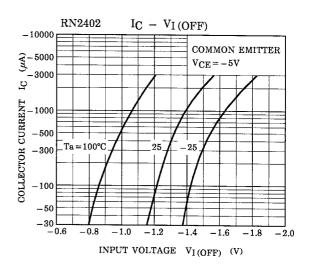


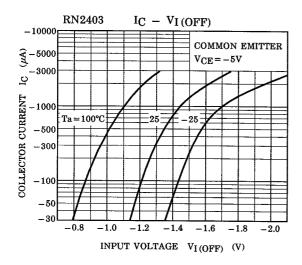


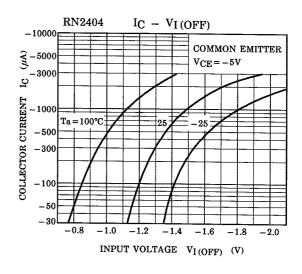


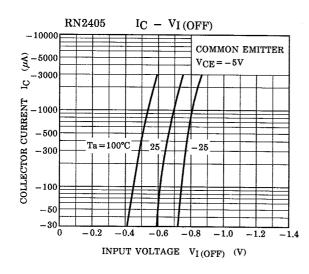


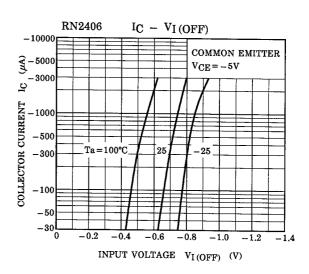




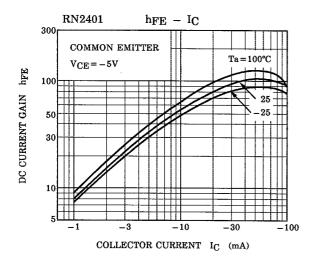


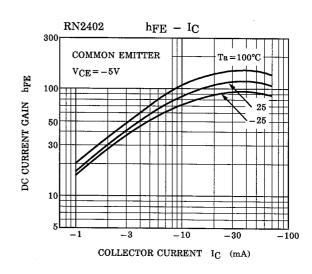


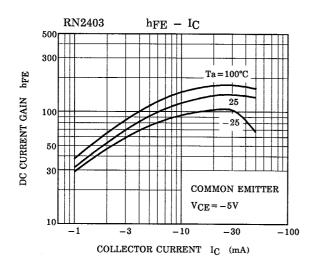


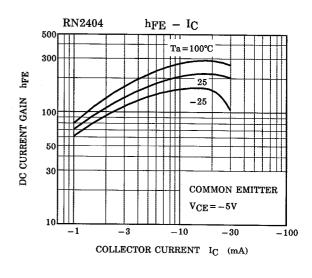


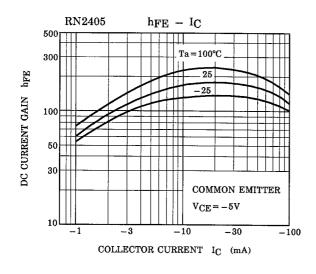
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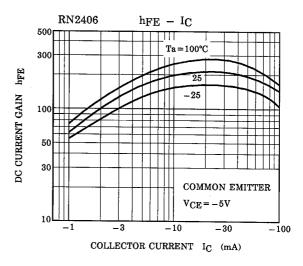












Type Name	Marking
RN2401	Type Name Y A
RN2402	Type Name Y B
RN2403	Type Name Y C
RN2404	Type Name Y D
RN2405	Type Name YE
RN2406	Type Name Y F

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