

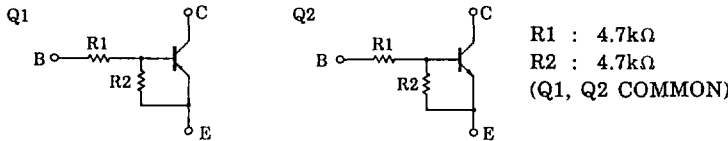
# RN4601

(RN4601)

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT  
AND DRIVER CIRCUIT APPLICATIONS.

- Including Two Devices in SM6 (Super Mini Type with 6 leads)
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



Q1 MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	-50	V
Collector-Emitter Voltage	V <sub>CE0</sub>	-50	V
Emitter-Base Voltage	V <sub>EB0</sub>	-10	V
Collector Current	I <sub>C</sub>	-100	mA

Q2 MAXIMUM RATINGS (Ta = 25°C)

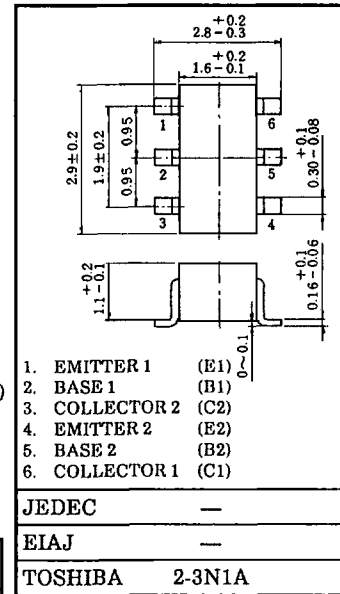
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CE0</sub>	50	V
Emitter-Base Voltage	V <sub>EB0</sub>	10	V
Collector Current	I <sub>C</sub>	100	mA

Q1, Q2 COMMON MAXIMUM RATINGS (Ta = 25°C)

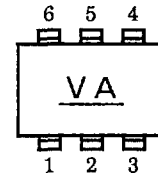
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P <sub>C</sub> *	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

\* : Total Rating

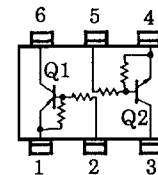
Unit in mm



MARKING



EQUIVALENT CIRCUIT (TOP VIEW)



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## Q1 ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0	—	—	-100	nA
	ICEO	V <sub>CE</sub> = -50V, I <sub>B</sub> = 0	—	—	-500	
Emitter Cut-off Current	IEBO	V <sub>EB</sub> = -10V, I <sub>C</sub> = 0	-0.82	—	-1.52	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	30	—	—	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -5mA, I <sub>B</sub> = -0.25mA	—	-0.1	-0.3	V
Input Voltage (ON)	V <sub>I(ON)</sub>	V <sub>CE</sub> = -0.2V, I <sub>C</sub> = -5mA	-1.1	—	-2.0	V
Input Voltage (OFF)	V <sub>I(OFF)</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -0.1mA	-1.0	—	-1.5	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -5mA	—	200	—	MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	3	6	pF

## Q2 ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V <sub>CB</sub> = 50V, I <sub>E</sub> = 0	—	—	100	nA
	ICEO	V <sub>CE</sub> = 50V, I <sub>B</sub> = 0	—	—	500	
Emitter Cut-off Current	IEBO	V <sub>EB</sub> = 10V, I <sub>C</sub> = 0	0.82	—	1.52	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	30	—	—	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 5mA, I <sub>B</sub> = 0.25mA	—	0.1	0.3	V
Input Voltage (ON)	V <sub>I(ON)</sub>	V <sub>CE</sub> = 0.2V, I <sub>C</sub> = 5mA	1.1	—	2.0	V
Input Voltage (OFF)	V <sub>I(OFF)</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 0.1mA	1.0	—	1.5	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5mA	—	250	—	MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz	—	3	6	pF

## Q1, Q2 COMMON ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Resistor	R1		3.29	4.7	6.11	kΩ
Resistor Ratio	R1/R2		0.9	1.0	1.1	

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