

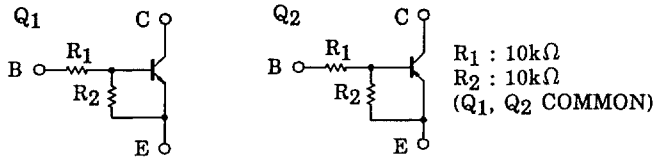
# RN4982

(RN4982)

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT  
AND DRIVER CIRCUIT APPLICATIONS

- Including Two Devices in US6 (Ultra 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 ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	50	V
Collector-Emitter Voltage	$V_{CE0}$	50	V
Emitter-Base Voltage	$V_{EB0}$	10	V
Collector Current	$I_C$	100	mA

Q2 MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

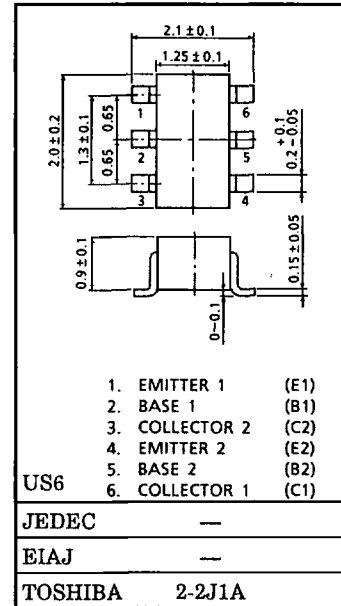
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	-50	V
Collector-Emitter Voltage	$V_{CE0}$	-50	V
Emitter-Base Voltage	$V_{EB0}$	-10	V
Collector Current	$I_C$	-100	mA

Q1, Q2 COMMON MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	$P_C$ *	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

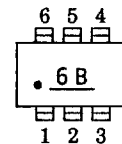
\* : Total Rating

Unit in mm

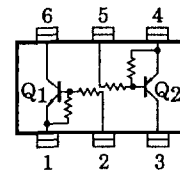


Weight : 6.8mg

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	0.38	—	0.71	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	50	—	—	
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	1.2	—	2.4	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

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

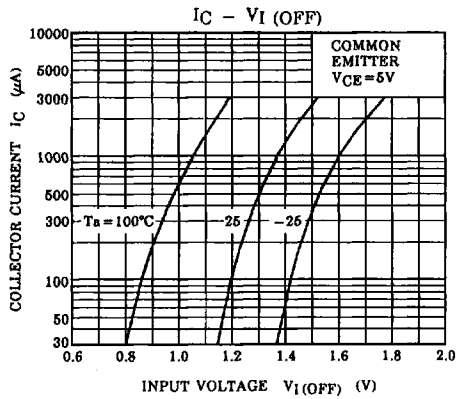
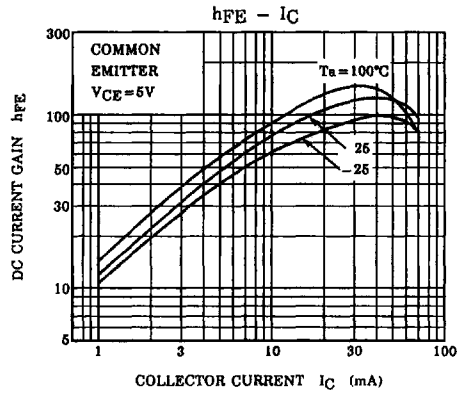
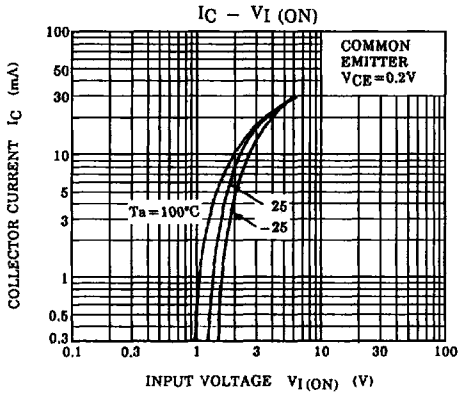
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0	—	—	-100	nA
	ICEO	V <sub>CE</sub> = -50V, I <sub>B</sub> = 0	—	—	-500	
Emitter Cut-off Current	IEBO	V <sub>EB</sub> = -10V, I <sub>C</sub> = 0	-0.38	—	-0.71	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	50	—	—	
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	-1.2	—	-2.4	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

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Resistor	R1	—	7	10	13	kΩ
Resistor Ratio	R1 / R2	—	0.9	1.0	1.1	

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Q1



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Q2

