

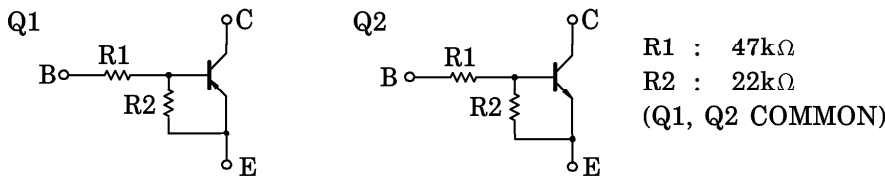
TOSHIBA TRANSISTOR
SILICON PNP EPITAXIAL TYPE (PCT PROCESS) SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

RN4609

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_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-15	V
Collector Current	I_C	-100	mA

Q2 MAXIMUM RATINGS (Ta = 25°C)

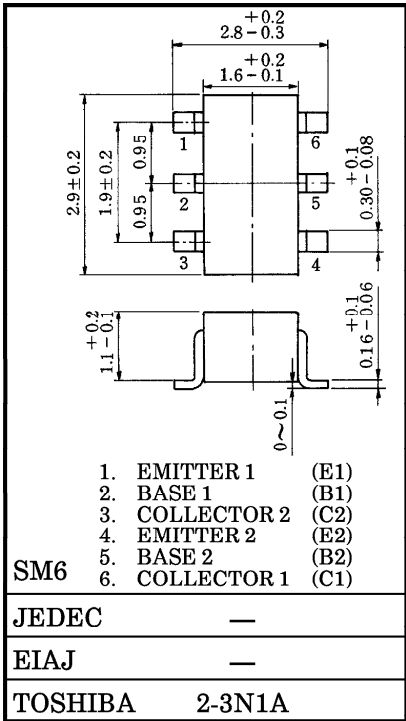
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	15	V
Collector Current	I_C	100	mA

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P_C^*	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

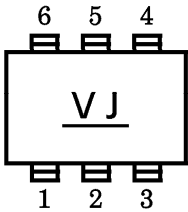
* : Total Rating

Unit in mm

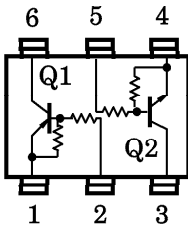


Weight : 0.015g

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 _{CB} = -50V, I _E = 0	—	—	-100	nA
	ICEO	V _{CE} = -50V, I _B = 0	—	—	-500	
Emitter Cut-off Current	IEBO	V _{EB} = -15V, I _C = 0	-0.167	—	-0.311	mA
DC Current Gain	h _{FE}	V _{CE} = -5V, I _C = -10mA	70	—	—	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = -5mA, I _B = -0.25mA	—	-0.1	-0.3	V
Input Voltage (ON)	V _{I(ON)}	V _{CE} = -0.2V, I _C = -5mA	-2.2	—	-5.8	V
Input Voltage (OFF)	V _{I(OFF)}	V _{CE} = -5V, I _C = -0.1mA	-1.5	—	-2.6	V
Transition Frequency	f _T	V _{CE} = -10V, I _C = -5mA	—	200	—	MHz
Collector Output Capacitance	C _{ob}	V _{CB} = -10V, I _E = 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 _{CB} = 50V, I _E = 0	—	—	100	nA
	ICEO	V _{CE} = 50V, I _B = 0	—	—	500	
Emitter Cut-off Current	IEBO	V _{EB} = 15V, I _C = 0	0.167	—	0.311	mA
DC Current Gain	h _{FE}	V _{CE} = 5V, I _C = 10mA	70	—	—	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 5mA, I _B = 0.25mA	—	0.1	0.3	V
Input Voltage (ON)	V _{I(ON)}	V _{CE} = 0.2V, I _C = 5mA	2.2	—	5.8	V
Input Voltage (OFF)	V _{I(OFF)}	V _{CE} = 5V, I _C = 0.1mA	1.5	—	2.6	V
Transition Frequency	f _T	V _{CE} = 10V, I _C = 5mA	—	250	—	MHz
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 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	—	32.9	47	61.1	kΩ
Resistor Ratio	R1/R2	—	1.92	2.14	2.35	

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