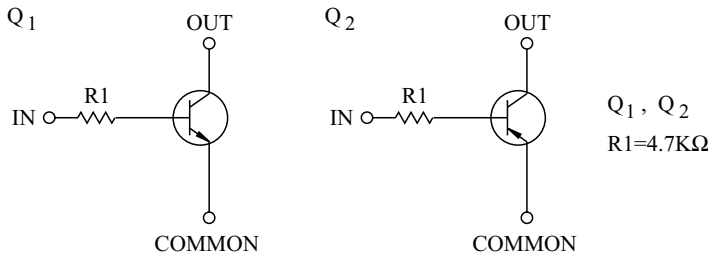


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

- 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

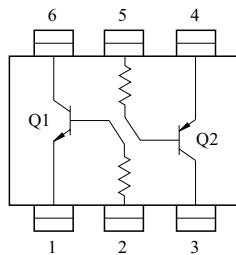


| DIM | MILLIMETERS |
|-----|----------------|
| A | 2.00±0.20 |
| A1 | 1.3±0.1 |
| B | 2.1±0.1 |
| B1 | 1.25±0.1 |
| C | 0.65 |
| D | 0.2+0.10/-0.05 |
| G | 0-0.1 |
| H | 0.9±0.1 |
| T | 0.15+0.1/-0.05 |

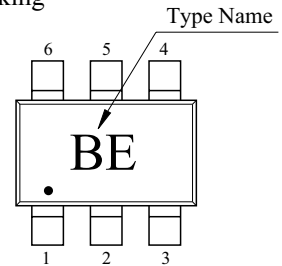
1. Q₁ COMMON (EMITTER)
2. Q₁ IN (BASE)
3. Q₂ OUT (COLLECTOR)
4. Q₂ COMMON (EMITTER)
5. Q₂ IN (BASE)
6. Q₁ OUT (COLLECTOR)

US6

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



Q1 MAXIMUM RATING (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} | 5 | V |
| Collector Current | I_C | 100 | mA |

Q2 MAXIMUM RATING (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} | -5 | V |
| Collector Current | I_C | -100 | mA |

Q1, Q2 MAXIMUM RATING (Ta=25 °C)

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

* Total Raing.

KRX205U

Q1 ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT. |
|--------------------------------------|--------------|---------------|-----------------------------------|------|-------|------|------------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=50V, I_E=0$ | - | - | 100 | nA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB}=5V, I_C=0$ | - | - | 100 | nA |
| DC Current Gain | | h_{FE} | $V_{CE}=5V, I_C=1mA$ | 120 | - | - | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C=10mA, I_B=0.5mA$ | - | 0.1 | 0.3 | V |
| Transition Frequency | | f_T^* | $V_{CE}=10V, I_C=5mA$ | - | 250 | - | MHz |
| Input Resistor | | R_1 | | - | 4.7 | - | k Ω |
| Switching Time | Ries time | t_r | $V_O=5V, V_{IN}=5V, R_L=1k\Omega$ | - | 0.025 | - | μS |
| | Storage Time | t_{stg} | | - | 3.0 | - | |
| | Fall Time | t_f | | - | 0.2 | - | |

Note : * Characteristic of Transistor Only.

Q2 ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT. |
|--------------------------------------|--------------|---------------|-------------------------------------|------|------|------|------------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=-50V, I_E=0$ | - | - | -100 | nA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB}=-5V, I_C=0$ | - | - | -100 | nA |
| DC Current Gain | | h_{FE} | $V_{CE}=-5V, I_C=-1mA$ | 120 | - | - | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C=-10mA, I_B=-0.5mA$ | - | -0.1 | -0.3 | V |
| Transition Frequency | | f_T^* | $V_{CE}=-10V, I_C=-5mA$ | - | 250 | - | MHz |
| Input Resistor | | R_1 | | - | 4.7 | - | k Ω |
| Switching Time | Ries time | t_r | $V_O=-5V, V_{IN}=-5V, R_L=1k\Omega$ | - | 0.2 | - | μS |
| | Storage Time | t_{stg} | | - | 2.0 | - | |
| | Fall Time | t_f | | - | 0.3 | - | |

Note : * Characteristic of Transistor Only.

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