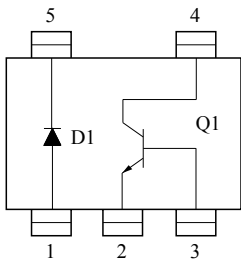


GENERAL PURPOSE APPLICATION.
ULTRA HIGH SPEED SWITCHING APPLICATION.

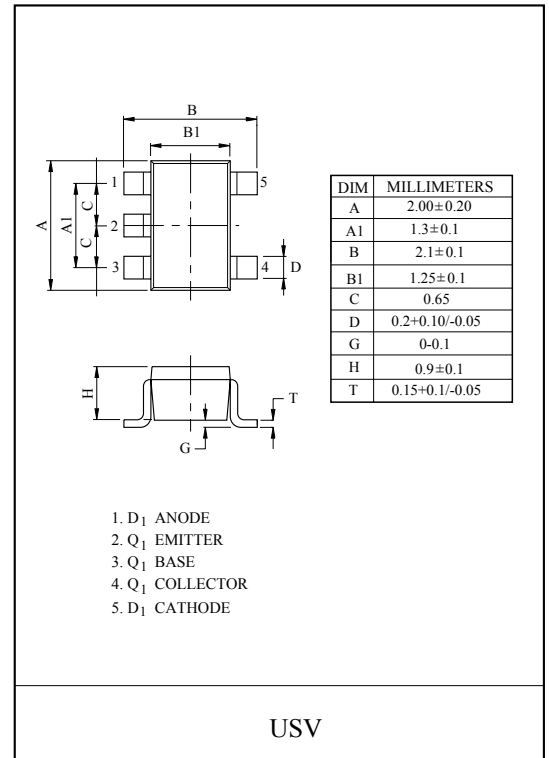
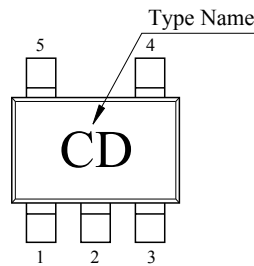
FEATURES

- Including two(TR, Diode) devices in USV.
(Ultra Super Mini type with 5 leads)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



MARK SPEC

| Type | KTX401U | KTX401U |
|------|---------|---|
| | | Q ₁ h _{FE} Rank : Y |
| Mark | CD | CE |

MAXIMUM RATINGS (Ta=25°C) TRANSISTOR Q₁

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage | V _{CBO} | 60 | V |
| Collector-Emitter Voltage | V _{CEO} | 50 | V |
| Emitter-Base Voltage | V _{EBO} | 5 | mA |
| Collector Current | I _C | 150 | mA |
| Emitter Current | I _B | 30 | mA |
| Collector Power Dissipation | P _C | 100 | mW |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -55~150 | °C |

DIODE D₁

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|--------------------------------|------------------|-----------|------|
| Maximum (Peak) Reverse Voltage | V _{RM} | 85 | V |
| Reverse Voltage | V _R | 80 | V |
| Maximum (Peak) Forward Current | I _{FM} | 300 | mA |
| Average Forward Current | I _O | 100 | mA |
| Surge Current (10mS) | I _{FSM} | 2 | A |
| Power Dissipation | P _D | - | mW |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -55 ~ 150 | °C |

KTX401U

ELECTRICAL CHARACTERISTICS (Ta=25°C) TRANSISTOR Q₁

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|------------------------|--|------|------|------|------|
| Collector Cut-off Current | I _{CBO} | V _{CB} =60V, I _E =0 | - | - | 0.1 | μA |
| Emitter Cut-off Current | I _{EBO} | V _{EB} =5V, I _C =0 | - | - | 0.1 | μA |
| DC Current Gain | h _{FE} (Note) | V _{CE} =6V, I _C =2mA | 120 | - | 400 | |
| Collector-Emitter Saturation Voltage | V _{CE(SAT)} | I _C =100mA, I _B =10mA | - | 0.1 | 0.25 | V |
| Transition Frequency | f _T | V _{CE} =10V, I _C =1mA | 80 | - | - | MHz |
| Collector Output Capacitance | C _{ob} | V _{CB} =10V, I _E =0, f=1MHz | - | 2.0 | 3.5 | pF |
| Noise Figure | NF | V _{CE} =6V, I _C =0.1mA, f=1kHz, R _g =10kΩ | - | 1.0 | 10 | dB |

Note) h_{FE} Classification Y(4):120~240, GR:200~400.

DIODE D₁

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-----------------------|-------------------|---------------------------|------|------|------|------|
| Forward Voltage | V _{F(1)} | I _F =1mA | - | 0.60 | - | V |
| | V _{F(2)} | I _F =10mA | - | 0.72 | - | |
| | V _{F(3)} | I _F =100mA | - | 0.90 | 1.20 | |
| Reverse Current | I _R | V _R =80V | - | - | 0.5 | μA |
| Total Capacitance | C _T | V _R =0, f=1MHz | - | 0.9 | 3.0 | pF |
| Reverse Recovery Time | t _{rr} | I _F =10mA | - | 1.6 | 4.0 | ns |