

This joy stick is equipment to which the variable resistor of the X-axis and the Y-axis can be moved by pushing down one lever which stood perpendicularly. If the lever is pushed down in the direction of the X-axis in the example of the following figure, VR1 will move, If it pushes down in the direction of the Y-axis, VR2 will move. And if it pushes down in the direction of slant, VR1 and VR2 will move simultaneously.

Since the lever of this automatic return type joy stick always stands on the perpendicular position, Brush of VR1 and VR2 is in the middle point of resistance. If it pushes down in the direction of the +X-axis, if Brush 2 is pushed down in the direction of 3 terminals in the direction of -X-axis, it will rotate in the direction of 1 terminal.

Moreover, if it pushes down in the direction of +Y-axis similarly, if Brush ② is pushed down in the direction of ① terminal in the direction of -Y-axis, it will rotate in the direction of ③ terminal.

it is equipped with the tact switch switches on by pushing a lever.

1 TBM MODEL : TX - 13RPSR B10KΩ

2 ELECTRICAL CHARACTERISTICS X2

- 2. 1 Total resistance : 10 KΩ +/- 20 %
- 2. 2 Resistance taper : B
45 - 55 % at the Lever vertical position.
- 2. 3 Power rating : 0.05 W
- 2. 4 Residual resistance : Term. 1-2 less than 300 ohms
Term. 2-3 less than 300 ohms
- 2. 5 Sliding noise : less than 200 mV
- 2. 6 Insulation resist. : more than 50 Mohms at 500V DC.
- 2. 7 Withstanding volt. : 1 minute at 500 V AC.
- 2. 8 Effective electrical angle : 45° +/- 5°
- 2. 9 Tracking error : +/- 2 db max. at the center position.
- 2.10 Tact switch ratings max. : 50 mA 12 V
- 2.11 Tact switch contact resist : 100 mΩ MAX.

4 Endurance

- 4. 1 Operating life : 300,000 Cycles
- 4. 2 TACT SW Operating life : 10,000 Cycles

5 Use environment

- 5. 1 Use temperature : -10 ~ +70°C
- 5. 1 Storage temperature : -20 ~ +70°C

6 Marking

B 10KΩ K

7 Applied standard.

JIS C6443

RoHS Compliance.

3 MECHANICAL CHARACTERISTICS

- 3. 1 Lever movement angle : 60 +/- 5°
- 3. 2 Operating force : 2 ~ 20 mN·m
- 3. 3 Lever stopper strength : 0.3 N·m
- 3. 4 Lever push strength : 50 N
- 3. 5 Lever pull strength : 30 N
- 3. 6 Lever play angle : +/- 5° MAX.
- 3. 7 TACT SW Operating force : 3 ~ 8 N
- 3. 8 TACT SW travel : 0.5 +/- +0.5/-0.4 mm

8 Precautions for handling

1. Resistance to soldering heat is 3 sec at 300°C (5 sec at 260°C)
2. Under conditions of the printed terminals as schematic drawing, avoid solder flowing out to the top of the printed circuit board.

It will be responsible for the failure of terminal part and the knob action due to transformation of resin part.

3. At time of soldering, do not apply stress to the terminal. If a terminal is applied stress, electrical characteristics may deteriorate.

4. This product is not washable after soldering.

5. Fully take care of flux rise, flux and soldering scattering.

