



TS63

X
Y
Z

multiturn surface mount miniature 1/4" square cermet trimmer, fully sealed – industrial grade

The TS63 multiturn trimmer has been designed for use in PCB surface mounting applications.

Three variations are available according to the positioning of the control screw and contact positions.

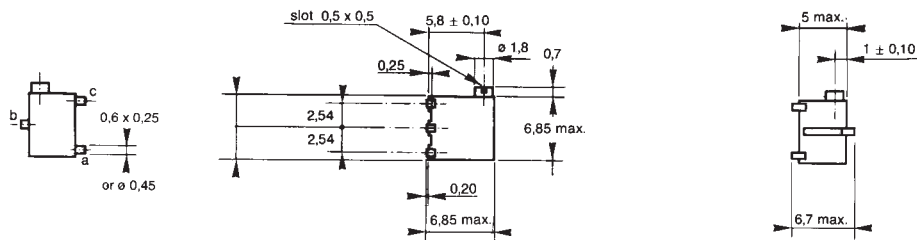
The cermet track gives a high stability performance with an extended ohmic capacity of 10 Ω to 2.2 MΩ.

The TS63 features:

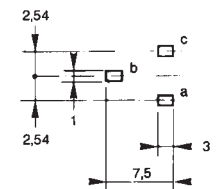
- MULTITURN OPERATION
- A VERY LOW TEMPERATURE COEFFICIENT
- A LOW CONTACT RESISTANCE VARIATION
- TIGHT TOLERANCING
- LOW END CONTACT RESISTANCE
- FULL SEALING



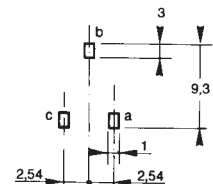
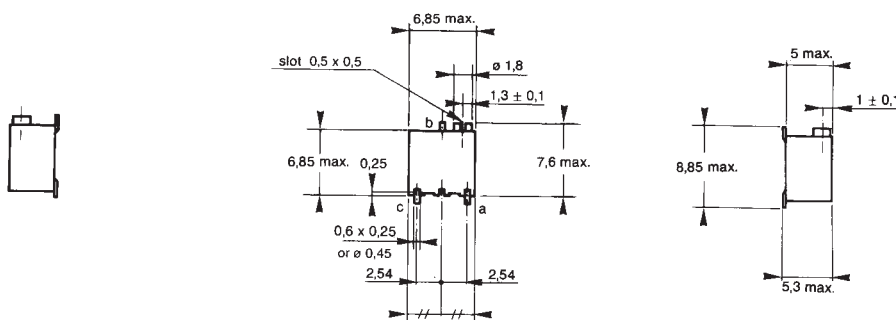
TS63X



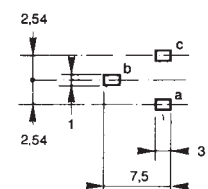
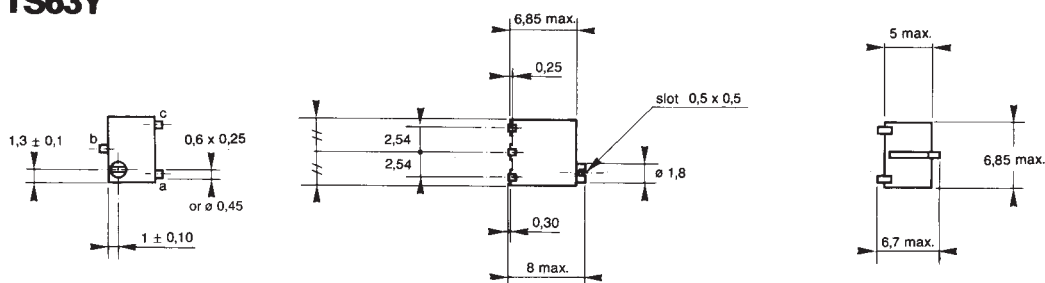
RECOMMENDED SOLDERING AREAS



TS63Z



TS63Y



CIRCUIT DIAGRAM



Dimensions in mm.

SPECIFICATIONS

MECHANICAL

| | |
|--------------------------------|---------------|
| MECHANICAL TRAVEL... | 15 turns ±5 |
| OPERATING TORQUE (max. Ncm)... | 1,5 |
| END STOP TORQUE... | clutch action |
| UNIT WEIGHT (max. g.)... | 0,5 |

ENVIRONMENTAL

| | |
|----------------------|--|
| TEMPERATURE RANGE... | -55°C + 155°C |
| CLIMATIC CATEGORY... | 55 / 125 / 56 |
| SEALING... | sealed container solder immersion IP67 |

ELECTRICAL

| | |
|---|--------------------|
| RESISTIVE ELEMENT... | cermet |
| ELECTRICAL TRAVEL... | 13 turns ±2 |
| RESISTANCE RANGE... | 10 Ω... 2 MΩ |
| Standard series... | 1 - 2 - 5 |
| TOLERANCE standard... | ±10% |
| on request... | ±5% |
| POWER RATING linear... | 0,25 W at 85°C |
| logarithmic... | not applicable |
| TYPICAL TEMP. COEFFICIENT (for Rn ≥ 100 Ω)... | ± 50 ppm/°C |
| LIMITING ELEMENT VOLTAGE (linear law)... | 250 V |
| CONTACT RESISTANCE VARIATION ... | 2% Rn or 2 Ω |
| END RESISTANCE (typical)... | 1 Ω |
| DIELECTRIC STRENGTH (RMS)... | 1000 V |
| INSULATION RESISTANCE... | 10 ⁶ MΩ |

PERFORMANCES

Table 1

| NF C 83-251 (FP PM84) | | | | TYPICAL VALUES AND DRIFTS | |
|---|---|--|---|---|---|
| TESTS | CONDITIONS | $\frac{\Delta R_T}{R_T}$ (%) | REQUIREMENTS $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%) | $\frac{\Delta R_T}{R_T}$ (%) | $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%) |
| CLIMATIC SEQUENCE | Phase A dry heat 125°C Phase B damp heat Phase C cold -55°C Phase D damp heat 5 cycles | ± 2% | ± 3% | ± 0,5% | ± 1% |
| LONG TERM DAMP HEAT | 56 days | ± 2 % Dielectric strength : 250 V RMS Insulation resistance : > 100 MΩ | ± 3% | ± 0,5 % Dielectric strength : 1000 V RMS Insulation resistance : > 10 ⁴ MΩ | ± 1% |
| ROTATIONAL LIFE (electrical, mechanical) | 200 cycles at rated power | ± 2 % Contact res. variat. : < ±3% Rn | | ± 2 % Contact res. variat. : < ±1% Rn | |
| LOAD LIFE | 1000 h at rated power 90°/30° - ambient temp. 85°C | ± 2 % Contact res. variat. : < ±3% Rn | ± 4% | ± 1 % Contact res. variat. : < ±1% Rn | ± 2% |
| THERMAL SHOCKS | 5 cycles -55°C to +125°C | ± 1,5 % | $\frac{\Delta V_{1-2}}{V_{1-3}} \pm 1\%$ | ± 0,5 % | $\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1\%$ |
| SHOCKS | 50 g at 11 m secs 3 successive shocks in 3 directions | ± 1% | ± 2% | ± 0,1% | ± 0,2% |
| VIBRATIONS | 10-55 Hz 0,75 mm or 10 g for 6 hours | ± 1 % | $\frac{\Delta V_{1-2}}{V_{1-3}} \pm 2\%$ | ± 0,1 % | $\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 0,2\%$ |

SOLDERING RECOMMENDATION

Soldering cycle : 2 mn at 215°C or 5 seconds at 260°C or 3 seconds at 350°C (according to VRCI and CECC 0802).
Soldering is recommended by reflow and vapour phase.

MARKING

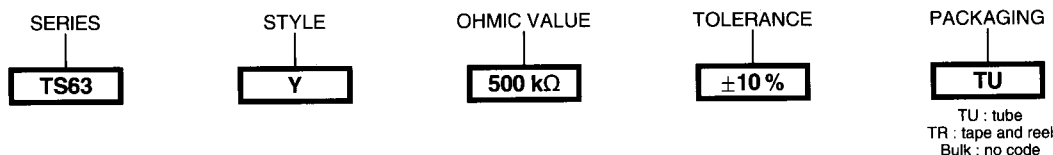
Printed, according to NF C 83251. SFERNICE trademark, series, style, ohmic value (in Ω, kΩ, MΩ), tolerance (in %) only if not standard, manufacturing date, marking of terminal 3.

STANDARD RESISTANCE ELEMENT DATA

Table 2

| Standard resistance values | LINEAR LAW | | | T.C. -55°C +125°C ppm/°C |
|----------------------------|--------------------|----------------------|---------------------------|-----------------------------------|
| | Max. power at 85°C | Max. working voltage | Max. cur. through element | |
| Ω | W | V | mA | |
| 10 | 0,25 | 1,58 | 158 | ±100 |
| 20 | | 2,23 | 112 | |
| 50 | | 3,53 | 77 | |
| 100 | 0,25 | 5 | 50 | |
| 200 | | 7,07 | 35 | |
| 500 | | 11,2 | 22 | |
| 1 k | | 15,8 | 15,8 | |
| 2 k | | 22,3 | 11,2 | |
| 5 k | | 35,3 | 7,1 | |
| 10 k | | 50 | 5 | |
| 20 k | | 70,7 | 3,5 | |
| 25 k | | 79 | 3,2 | |
| 50 k | | 112 | 2,2 | |
| 100 k | 158 | 1,6 | | |
| 200 k | 0,25 | 224 | 1,1 | |
| 250 k | 0,25 | 250 | 1,1 | |
| 500 k | 0,13 | 250 | 0,50 | |
| 1 M | 0,06 | 250 | 0,25 | |
| 2 M | 0,03 | 250 | 0,125 | |

ORDERING PROCEDURE



PACKAGING

- In bulk by 100 or 500 pieces, no code
- In magazine pack by 50 pieces (Tube) code "TU"
- X, Y and Z types: on tape and reel (Dia. 330 mm) by 500 pieces.

POWER RATING CHART

Fig. 1

