**ORDER DESCRIPTION**

1. **Object of the contract**

The subject of the contract is a thermoelectric cooler in the amount of

* thermoelectric cooler 3TE on TO8 – 12 pin – 3MD06-071-10 - 17 pcs

1. **Parameters**

**2.1 Detailed scope of the subject**

| Product name | | Parameter | Specification |
| --- | --- | --- | --- |
| Thermoelectric cooler 3TE on TO8 – 12 pin – 3MD06-071-10 | Cooler Parameters (measurement conditions - 300 K, vacuum) | Ceramics material | Al2O3, top ceramics of the cooler polished |
| Assembly of the TEC | RoHS lead-free solder  Tmelt (melting temperature) not lower than 230 ° C |
| Electrical connections of the cooler | One uninsulated AWG-30 wire soldered per each terminal of the TEC |
| Top stage dimensions | 3,4±0,1 mm x 3,4±0,1 mm |
| Bottom stage dimensions | 8±0,1 mm x 8±0,1 mm |
| Height of the cooler | 5,3±0,15 mm |
| ΔTmax K (measurement in a vacuum, 300K) | Not less than 118 K |
| Qmax W  (measurement in vacuum, 300K) | Not less than 0,94 W |
| Imax A  Umax V (measurement in vacuum, 300K) | 1,25±0,06 A  6±0,29 V |
| Header TO-8 12 pin parameters | Header type | TO8 |
| Number of the pins | 12 pin |
| Header material | Kovar (alloy complying with ASTM F-15) |
| Metallization of the header | 1.Ni layer - metallization thickness 1.27-3.8 μm  2. Au layer - metallization thickness> 1.27 μm |
| Pin material | Kovar (alloy complying with ASTM F-15) |
| Metallization of the pins | 1.Ni layer - metallization thickness 1.27-3.8 μm  2. Au layer - metallization thickness> 1.27 μm |
| Mounting screw | Screw material - CRS (cold rolled steel)  Bolt thread - 4-40 UNC  Screw length - 7.4 ± 0.4 mm |
| Header sealing | Electrically non-conductive, non-transparent, helium leakage of a sealing material less than  10-8 mbar \* l / s - e.g. Corning 7052 or equivalent |
| The internal length of the pins (from the mounting surface of the cooler) | 2,6±0,13 mm |
| Pin surface roughness | Ra 0.8 or better |
| The outer length of the pins (from the surface with the thread mounted) | 7,4±0,13 mm |
| Features of the set: cooler on the header | The method of mounting the TEC to the header | Soldering, RoHS lead-free solders, melting point >200C |
| The connection between TEC wires and pins | TEC terminal wires soldered to pins 13 (-) and 16 (+) of the header  RoHS lead-free solders with a melting point >200C |
| Position tolerance between TEC and header | The error in the position of the centre of the top stage of the TEC relative to the axis defined by the rim of a 13,4 mm diameter have to be less than 200 μm |
| ACR (cooler mounted to a header, measurement under vacuum, 300K) | ~4,14±0,3 Ω |