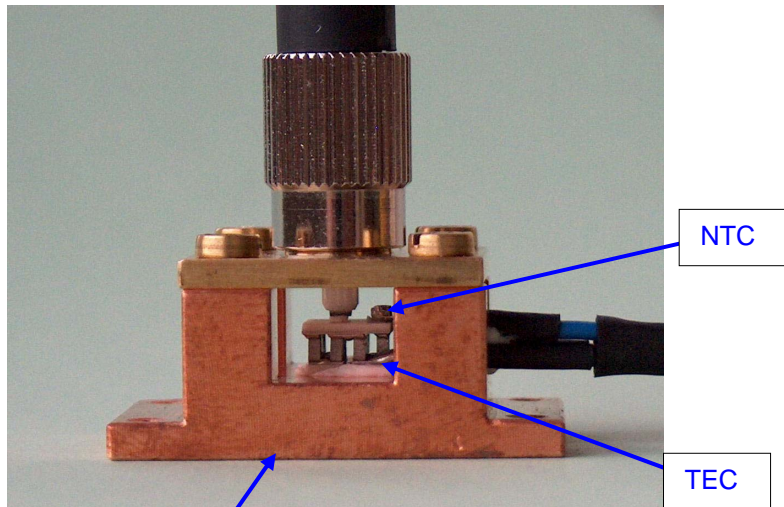
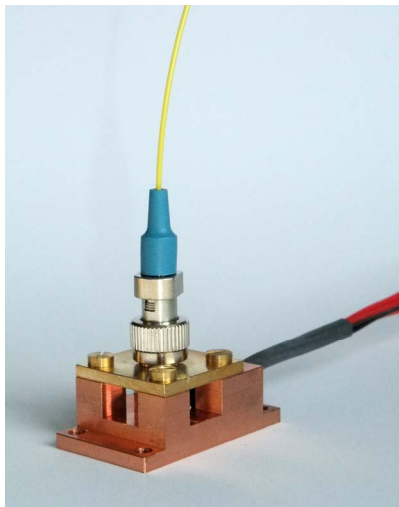
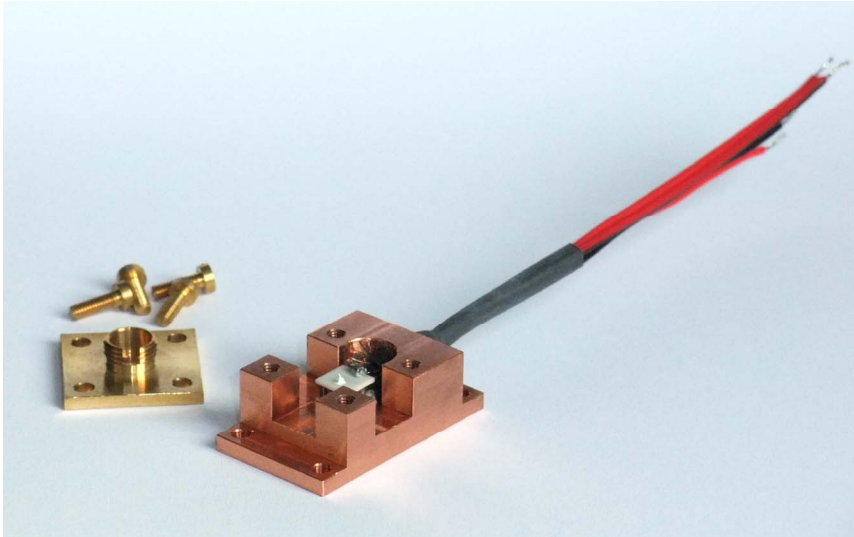


specification sheet

Fibre coupled RSAM on heat sink with TEC



The copper baseplate has to be mounted on a heat sink with a good thermal conductivity.

The RSAM chip is fixed on the fiber end. Thermal contact between the RSAM and the top plate of the TEC is made with a small amount of a thermal conducting paste.

assembly instructions

note:

- during shipment the connector of the fiber patch cable is not plugged into the heat sink with TEC
- a small amount of the thermal conducting paste is already applied to the TEC at delivery

1. A small portion of a heat conducting paste should be applied to the lower side of the RSAM chip (e.g. by the use of a utility, like a needle or a similar tool) mounted on the end face of the FC/PC connector. Do not use too much of the conducting paste! For example see figure 2.

This procedure ensures a good thermal conductivity of the SAM chip to the copper heat sink.



figure 1: RSAM chip on FC/PC connector end face



figure 2: same connector as figure 1 with heat conducting paste

2. Carefully insert the FC/PC plug with the chip in the female connector at the top plate. Smoothly tighten the coupling ring until the chip touches the surface of the TEC. Do not overtighten the connector, this may damage the chip!

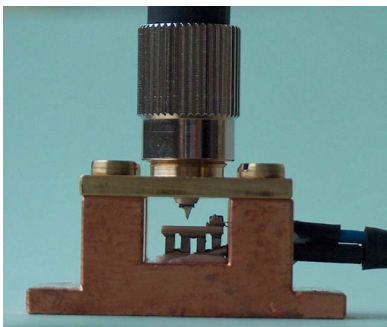


figure 3: FC/PC connector inserted in the heat sink with TEC

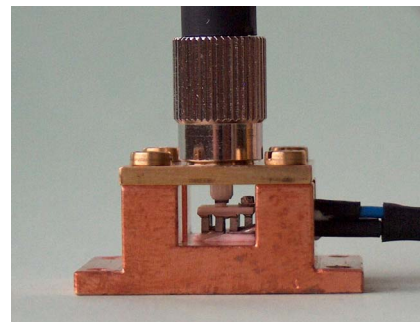


figure 4: the RSAM chip is in contact with the TEC, stop tighten the coupling ring

TEC (thermoelectric cooler)

The RSAM is mounted on a TEC to fine tune the absorption wavelength. The copper baseplate has to be mounted on a heat sink with good thermal conductivity.

polarity for RSAM cooling

red wire + / black wire -

maximum ratings for cooling

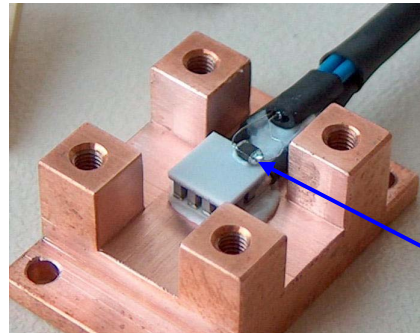
current 1.3 A / voltage 1.3 V

⇒ ~ -5°C at 20°C base plate temperature

polarity for RSAM heating
 maximum ratings for heating

black wire +/ red wire -
 current 0.8 A/ voltage 0.85 V
 ⇒ 78°C at 20°C base plate temperature

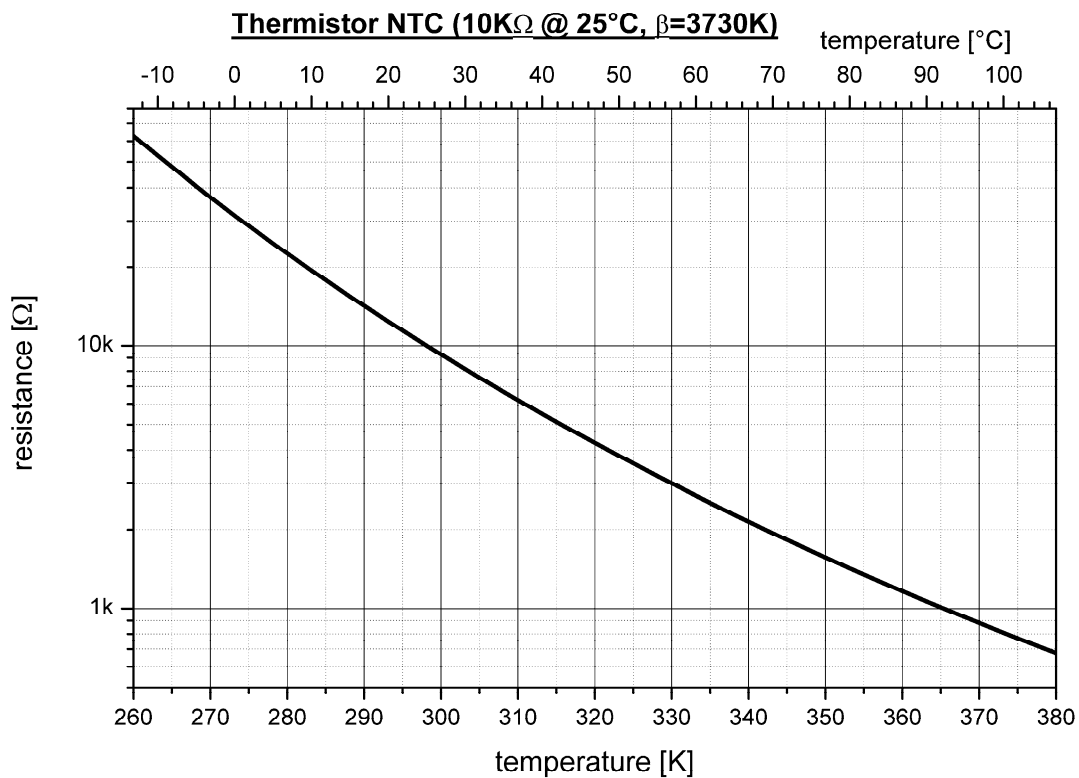
NTC(temperature sensor with negative temperature coefficient)



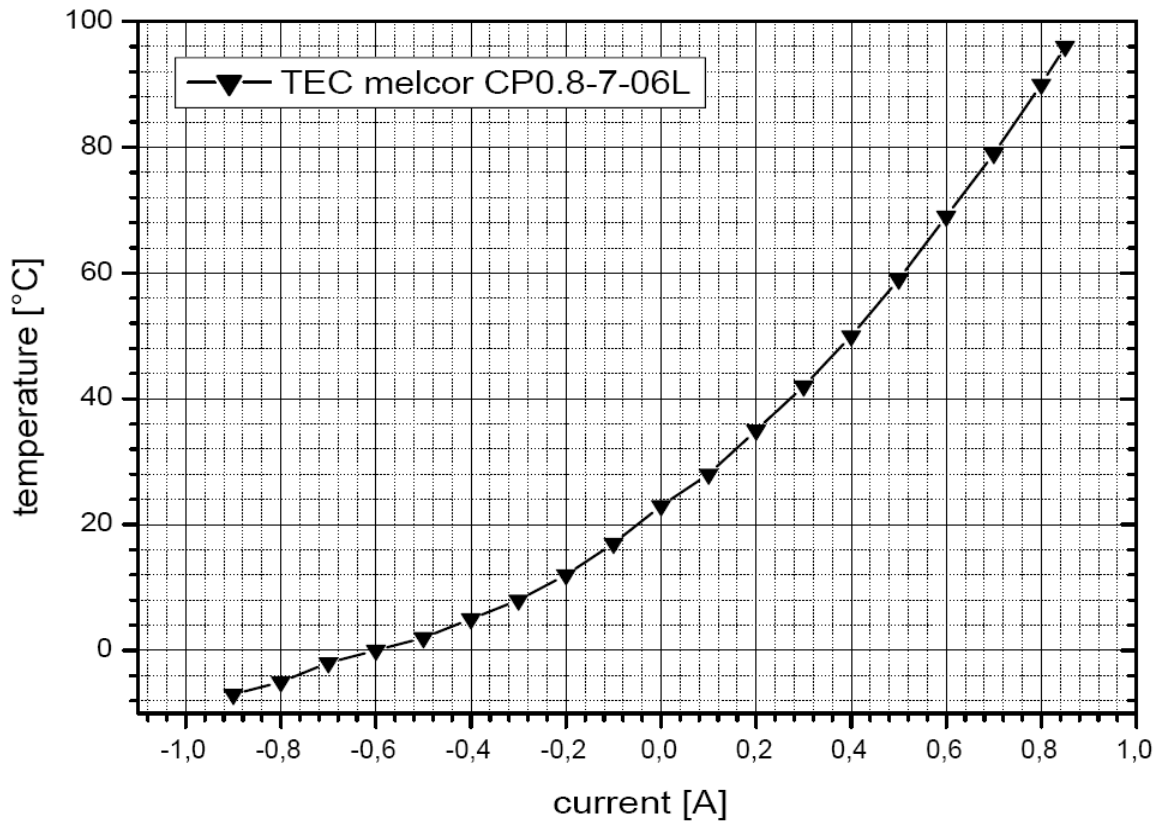
The NTC is mounted on the top side of the TEC.
 Electrical connection: red / red+black wires

Resistance at absolute temperature T: $R_T = R_{25} \cdot e^{\beta(\frac{1}{T} - \frac{1}{T_N})}$

with $R_{25} = 10\text{ k}\Omega$, resistance at 25°C
 $T_N = 273.15\text{K} + 25\text{K} = 298.15\text{K}$, reference temperature
 $\beta = 3730\text{ K}$



TEC



TEC

