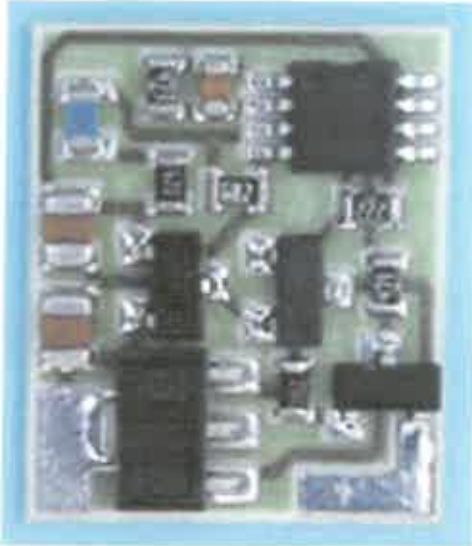


Precision crystal heater 40° QH40A
40.8 °C • +/- 1.5 °C



Description

The precision crystal heater provides temperature stabilisation for crystals. The circuit, which is built on AL₂O₃ ceramic substrate, has to be mounted on the 40 °C thermostat crystal. Then, the crystal is heated to 40.8 °C with a regulation accuracy of better than 0.1 °C. This provides high frequency stability.

The precision crystal heater is a in expensive alternative to completely heated oven oscillators (OCXOs). However, the stability values of an OCXO can not be reached.

Applications

- Temperature stabilisation of crystals for high frequency stability

References

References

Technical specifications

Temperatur	40.8 °C +/- 1.5 °C
Regulation accuracy	better 0.1 °C
Supply voltage	+8 ... 12 V DC, use stabilized voltage
Inrush current	typ. 80 mA
Dimensions (mm)	11.5 x 13.8 x 2.4

Precision crystal heater QH40A

Product Information

This precision crystal heater provides temperature compensation for crystals, usually found within crystal oscillators. The assembled circuit, which is built on Al_2O_3 ceramic substrate, should be mounted against the thermostat crystal using heat shrink tubing. The circuit heats the crystal to a temperature of $40,8^\circ C$ with an accuracy of better than $0,1^\circ C$. This provides high frequency stability over the temperature range of -5 to $+40^\circ C$. This crystal heater is a reasonable alternative to completely heated OCXO's which values can not be reached.

Reverse polarity of the supply voltage can lead to the destruction of the circuit. Thin wires should be used for the connections to avoid heat transfer and mechanical load. For operation in ambient temperatures of $10^\circ C$ or below, add some polystyrene insulation.

Specifications:

Adjustment tolerance:	$40,8^\circ C \pm 1,5^\circ C$
Regulation accuracy:	better $0,1^\circ C$
Operation Voltage:	$8 \dots 12 V$
Inrush current:	ca. $80 mA$
Dimensions ($\pm 0,15 mm$):	$11,5 \times 13,8 \times 2,4$



2016-01-05

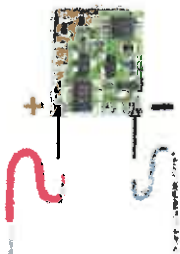


Fig1



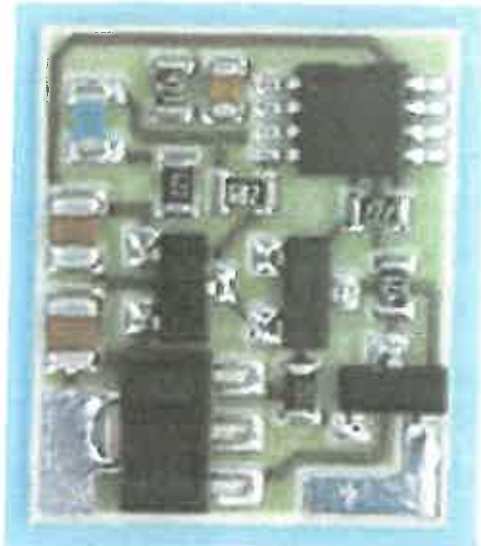
Fig2



Fig3

1. The wires should be soldered to the pins provided. The S shape of the wires (fig1) reduces the mechanical load on the heater plate (fig3).
2. Warm the heat shrink tubing to hold the circuit next to the crystal (fig2), ensure that the temperature is not too high.
3. Installation of the crystal heater (fig3).

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