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MC49VVT

## MINIATURE CRYSTAL OVEN SPECIFICATION

This specification defines the operating characteristics of a component heater. Long term reliability and stability are assured through use of premium components.

REV	DESCRIPTION OF REVISION	BY	APV	DATE
-	Redrawn on new form was dwg. 115-038.	BTG	TST	02-24-2004

This M43VVT specification covers input voltages from +5 VDC to +28 VDC and set point temperatures from +35°C to +95°C. The VV in the part number specifies the nominal operating voltage. If the voltage is less than +10 VDC, use a leading zero (i.e. for +5 VDC use VV = 05). The TT in the part number specifies the set point temperature in °C (i.e. for +75°C use TT = 75). VV and TT are used in this specification to describe the operation of this oven.

### 1. TEMPERATURE

- 1.1. Set point +TT °C (Customer specified)  
(+35°C to +95°C)
- 1.2. Initial tolerance < ±3°C @ +25°C

### 2. STABILITY

- 2.1. Ambient < ±5°C from -30°C to (TT-10)°C
- 2.2. Voltage < ±0.5°C/±10% change
- 2.3. Warm-up < ±1°C in 2 minutes @ +25°C  
(referenced to temperature at 15 minutes)

### 3. INPUT POWER

- 3.1. Voltage +VV VDC (Customer specified)  
(+5 VDC to +28 VDC)
- 3.2. Voltage tolerance ±10%
- 3.3. Power
  - a. At turn on < 6 Watts @ +25°C
  - b. Slope \* -0.03 Watts/°C typicalTo calculate the typical steady state power use the following formula.  
 $P_{ss} = (TT - \text{ambient temperature of unit})^{\circ}\text{C} \times 0.03 \text{ (Watts)}$

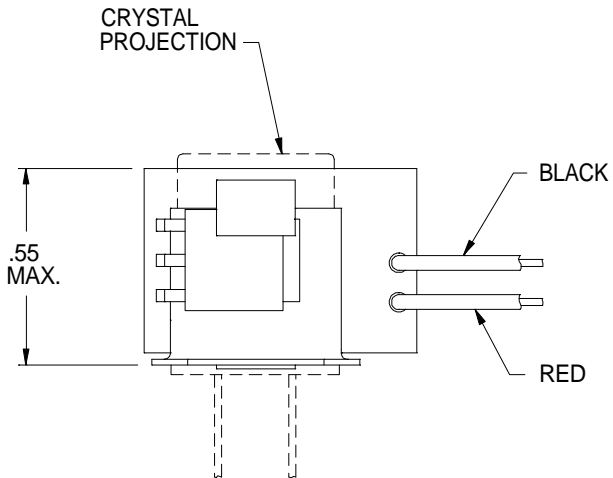
### 4. MECHANICAL

- 4.1. Heated cavity holds the following crystals HC-18/U, HC-25/U,  
HC-42/U, HC-43/U,  
HC-49/U, and HC-50/U
- 4.2. Applicable series MC49 series
- 4.3. Model number MC49VVT (Customer specified)
- 4.4. Outline drawing 125-382

\* In still air.

See ISOTEMP application note 146-003 for design considerations.

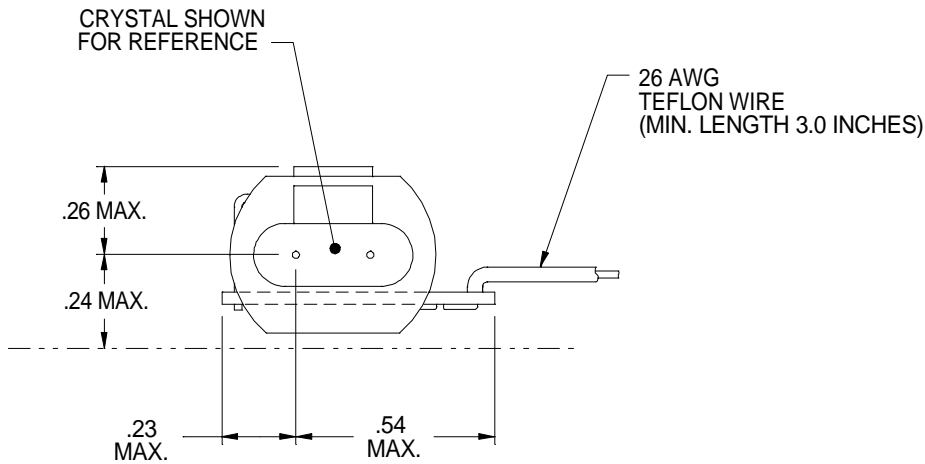
CHARLOTTESVILLE, VA USA www.isotemp.com	CODE ID	MODEL NO.	PAGE OF TOTAL		DWG. NO.	REV
	31785	MC49VVT	1	1	114-1184	-



WIRE	FUNCTION
RED	+ VDC
BLACK	0 VDC

PART NUMBER: MC49V VTT

VV = VOLTAGE DC  
TT = SET POINT  
TEMPERATURE (°C)



FORM NO. 120-081D



OSCILLATORS

CHARLOTTESVILLE, VIRGINIA

NAME: OUTLINE DRAWING  
(MC49 SERIES)

CODE I.D. NO.

31785

SCALE: 2:1

DATE: 12-24-91

DWN. BY: WEW

APPR'D. BY: TST

B

REDRAWN - NEW FORM

LRB

DAG

05-18-00

TOLERANCES

UNLESS OTHERWISE SPECIFIED:

ANGLES: ±1 DEGREE

FRACTIONS: ±1/32 INCH

DECIMALS: .XX ±.015, .XXX ±.010

MAT'L:

FINISH:

MARK:

LET

REVISION

BY

APP

DATE

DWG: 125-382  
REV: B  
SHT: 1 OF 1