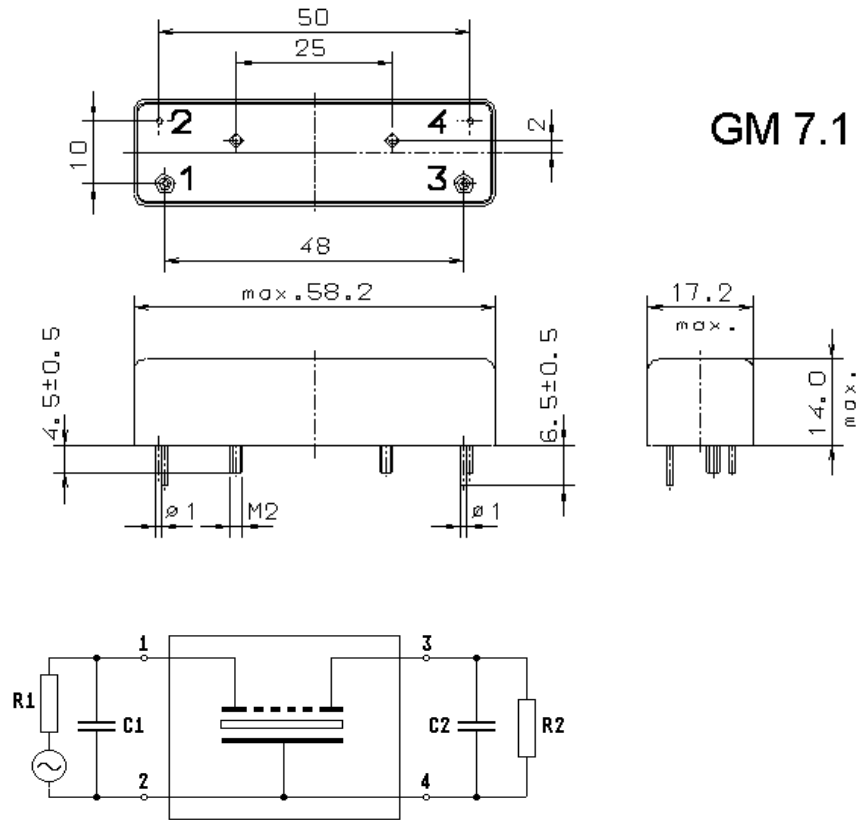


Specification for monolithic crystal filter

**MQF 40.048-0800/02V1**

**1. General**

1.1. Package:



**GM 7.1**

- |                                   |                      |
|-----------------------------------|----------------------|
| 1.2. Type name:                   | MQF 40.048-0800/02V1 |
| 1.3. Number of poles:             | 4                    |
| 1.4. Operable temperature range:  | -40°C to +85°C       |
| 1.5. Operating temperature range: | -20°C to +70°C       |
| 1.6. Storage temperature range:   | -55°C to +90°C       |

**2. Electric values**

- |                                   |            |
|-----------------------------------|------------|
| 2.1. Nominal centre frequency fo: | 40.048 MHz |
|-----------------------------------|------------|

**2.2. Pass band**

- |   |                              |
|---|------------------------------|
| 2.2.1. Bandwidth between 1 dB - frequencies:                                | ≥ fo ± 4.0 kHz               |
| 2.2.2. Ripple:  | ≤ 1.0 dB at fo ± 4.0 kHz     |
| 2.2.3. Change of group delay between different samples of the same type:    | ≤ 300 μs ( at fo ± 4.0 kHz ) |
| 2.2.4. Insertion loss:<br>( measured on smallest attenuation in pass band ) | ≤ 3.0 dB                     |

**2.3. Stop band**

- |                                |         |
|--------------------------------|---------|
| 2.3.1. fo + 76 kHz             | ≥ 60 dB |
| 2.3.2. 39.942 MHz.....40.0 MHz | ≥ 80 dB |
| 2.3.3. fo +76 kHz.....+250 MHz | ≥ 60 dB |
| 2.3.4. Spurious responses:     | ≥ 40 dB |

- 2.4. Terminating impedance ( input and output ):  $50 \Omega // 0 \text{ pF}$
- 2.5. Intermodulation**
- 2.5.1. Out band - intermodulation
- frequency 1:  $f_o \pm 30 \text{ kHz}$
- frequency 2:  $f_o \pm 60 \text{ kHz}$
- input power level at pin 1( input ): -6 dBm
- IM:  $\geq 71 \text{ dB}$  ( in relation to pin 3 )
- 2.5.2. Inband - intermodulation
- frequency 1:  $f_o +1 \text{ kHz}$
- frequency 2:  $f_o -1 \text{ kHz}$
- input power level at pin 3 ( output ): 0 dBm
- IM:  $\geq 50 \text{ dB}$  ( in relation to pin 1 )
- 2.6. Maximum input power level: 0 dBm
- 2.7. Maximum input power level: + 20 dBm ( without damage )

### 3. Environment conditions

- 3.1. Vibration according to IEC 68-2-6 test FC ( filter case shall be fastened to the vibration table )
- frequency range ( with total amplitude 0.7 mm ): 10 Hz - 55 Hz
  - acceleration:  $49.05 \text{ m/s}^2$
  - duration: 0.5 hours
- 3.2. Shock according to IEC 68-2-27, test Ea
- number of directions: 3
  - peak acceleration:  $490.5 \text{ m/s}^2$
  - duration of the nominal pulse: 11 ms
  - number of shocks: 3
- 3.3. Humidity test Db 40 according to IEC 68-2-30 21 cycles
- 3.4. Aging: 1000 hours at  $70^\circ\text{C} \pm 3^\circ\text{C}$
- 3.5. Change of temperature according to IEC 68-2-14
- temperatures:  $-25^\circ\text{C} / 70^\circ\text{C}$
  - exposure time: 30 minutes
  - cycles: 10

### 4. Others

- 4.1. Design: case soldered
- 4.2. Weight: < 35 g
5. Marking: manufacturer, date code  
MQF 40.048-0800/02V1

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Edited by: \_\_\_\_\_ date: \_\_\_\_\_ name: \_\_\_\_\_