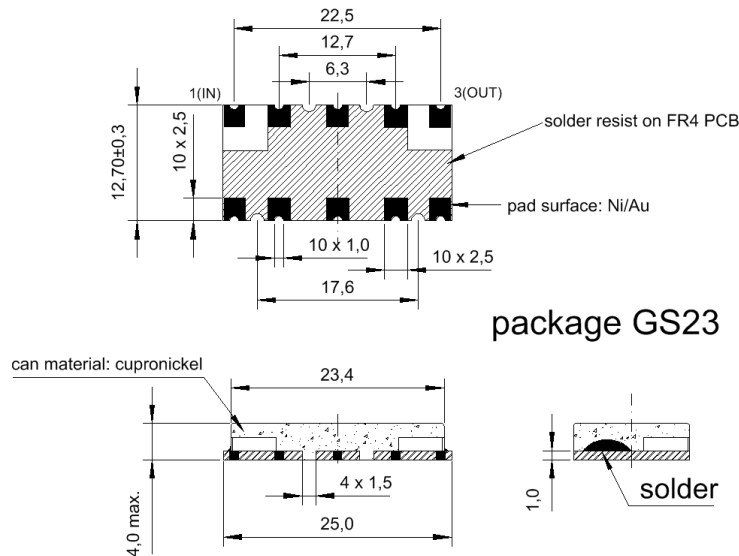


Specification for monolithic crystal filter: **MQF 20.208-3200/06**

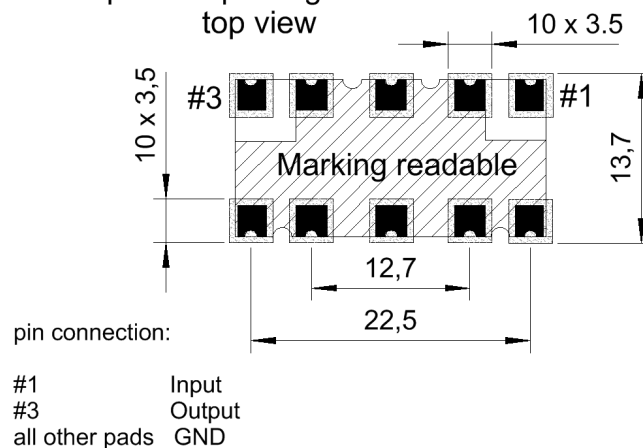
1. General

1.1. Package:



package GS23

footprint for package GS 23  
top view



- |                                   |                    |
|-----------------------------------|--------------------|
| 1.2. Type name:                   | MQF 20.208-3200/06 |
| 1.3. Number of poles:             | 2                  |
| 1.4. Operating temperature range: | -40°C to +85°C     |
| 1.5. Operable temperature range:  | -54°C to +105°C    |
| 1.6. Storage temperature range:   | -62°C to +105°C    |

2. Electric values

- |                                       |            |
|---------------------------------------|------------|
| 2.1. Nominal centre frequency $f_0$ : | 20.208 MHz |
|---------------------------------------|------------|

2.2. Pass band

- |  |                       |
|--|-----------------------|
| 2.2.1. Centre frequency $f_c$ at +25°C                 | 20.208 MHz ± 1.0 kHz  |
| 2.2.2. Bandwidth between 3 dB - frequencies:           | > $f_c$ ± 16 kHz      |
| 2.2.3. Group delay ( absolute ) at $f_c$ and at +25°C: | 12 μs ± 3 μs          |
| 2.2.4. Differential group delay at $f_c$ ± 16 kHz:     | < 3.5 μs peak to peak |
| 2.2.5. Return loss ( IN / OUT ) at $f_c$ and at +25°C: | > 8 dB                |
| 2.2.6. Insertion loss at $f_c$ :                       | < 4.0 dB              |

2.3. Stop band

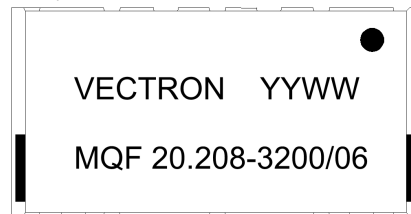
- 2.3.1.  $f_c \pm 25$  kHz > 4 dB
- 2.3.2.  $f_c \pm 100$  kHz > 25 dB
- 2.3.3.  $f_c \pm 240$  kHz.....282 kHz > 30 dB
- 2.3.4.  $f_c - 384$  kHz > 45 dB
- 2.3.5.  $f_c \pm 500$  kHz > 50 dB
- 2.3.6.  $f_c + 6.144$  MHz  $\pm 20$  kHz > 70 dB
- 2.3.7. Alternate attenuation: > 50 dB
- 2.3.8. Spurious responses > 15 dB (  $f_c +100$ kHz...500 kHz ):

2.4. Terminating impedance ( input and output ): 50  $\Omega$  // 0 pF

2.5. Out-band intermodulation  
third order intermodulation products shall be 46 dB down from either of two -14 dBm input tones at  $f_c \pm 50$  kHz and  $f_c \pm 100$  kHz as referenced to the input.

2.6. Maximum input power working / non-damaged: +3 / +15 dBm

3. Marking on the package ( top view ): 3(OUT) 1(IN)

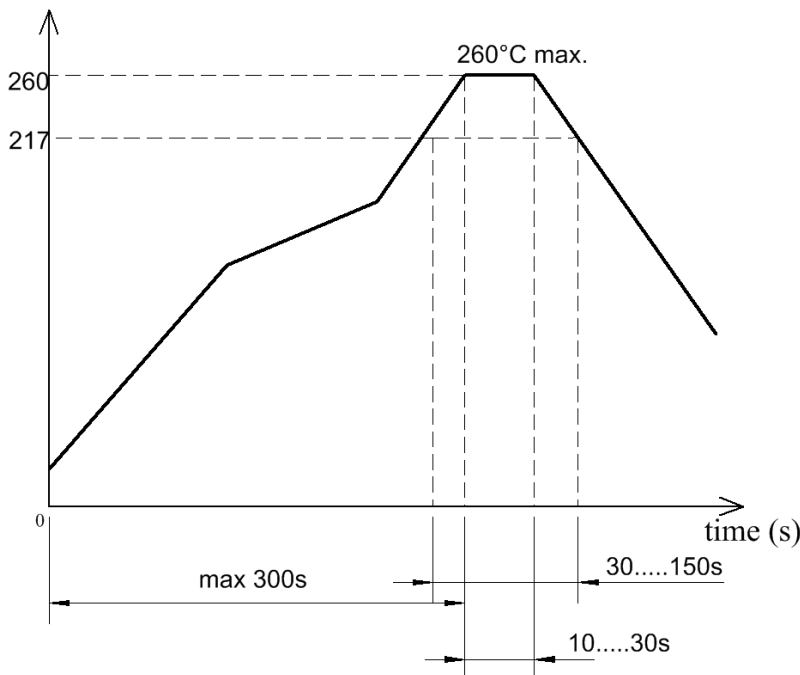


4. Environment conditions: Corresponding to Vectron MIL standard

5. Soldering conditions

temperature ( $^{\circ}$ C)

Reflow soldering: three times max.



6. Taping: Maximum 500 pcs. per reel, reel diameter 300 mm

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