Specification for monolithic crystal filter: **MQF 45.0 - 3000 / 30**

1. **General**

1.1. Package:

1.2. Type name: MQF 45.0-3000/30

1.3. Number of poles: 6

1.4. Operating temperature range: -20°C to +70°C

1.5. Storage temperature range: -40°C to +85°C

2. **Electric values**

2.1. Nominal centre frequency \( f_0 \): 45.0 MHz

2.2. **Pass band**

2.2.1. Centre frequency \( f_c \): 45.0 MHz ± 1.2 kHz

2.2.2. Bandwidth between 3 dB - frequencies: \( > f_0 ± 15 \text{kHz} \)

2.2.3. Ripple at \( f_0 ± 10 \text{kHz} \): \( < 1.5 \text{dB} \)

2.2.4. Insertion loss: \( < 4.0 \text{dB} \)

2.2.5. Return loss at \( f_0 ± 10 \text{kHz} \): \( > 11 \text{dB} \)

2.3. **Stop band**

2.3.1. \( f_0 ± 50 \text{kHz} \): \( > 63 \text{dB} \)

2.3.2. \( f_0 ± 100 \text{kHz}.....f_0 ± 1 \text{MHz} \): \( > 85 \text{dB except spurious} \)

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

3. **Marking**

3.1. Top view

3.2. Bottom view

4. Environment conditions: Corresponding to Vectron standard CF001
5.) Reflow profile corresponding to IPC / JEDEC J-STD-020C

**Profile Feature** | **Pb-free assembly**
---|---
Average ramp-up rate ( TL to Tp ) | 3°C / second max.
Average ramp-up rate ( T{\text{max}} to TL ) | 3°C / second max.
Preheat:
- Temperature Min T{\text{min}} | 150°C
- Temperature Min T{\text{max}} | 200°C
- Time ts ( T{\text{min}} to T{\text{max}} ) | 60-180 seconds
Time maintained above:
- Temperature TL | 217°C
- Time tL | 60-150 seconds
Peak temperature Tp | 260 +0/-6°C
Time within 5°C of actual peak temperature Tp | 10-30 seconds | 20-40 seconds
Ramp-down rate | 6°C / second max.
Time 25°C to peak temperature | 8 minutes max.

All temperatures refer to topside of the package, measured on body surface of the package.
6. Taping

Maximum 600 pcs. / reel

Drawing out direction

Tape dimension ( mm )

- Trailer
- Cover tape
- Leader part (400mm min., 200mm min., 150mm min.)
- Components placed
- Carrier tape
- Cover tape

Drawing out direction (leading direction)

Tape (all dimensions in mm)

- W: 44.0 ± 0.3
- So: 40.4 ± 0.1
- Pt: 4.0 ± 0.1
- P1: 20.0 ± 0.1
- F: 20.2 ± 0.15
- Ko: 5.1 ± 0.1
- Ao: 13.2 ± 0.1
- Bo: 32.25 ± 0.1
- t: 0.4 ± 0.05

Reel (all dimension in mm)

- A: Ø 330 max.
- C: Ø 21.8 ± 0.5
- N: Ø 100 min.
- W1: 45.5 ± 0.25
- W2: 49.5 ± 0.5

Edited by: __________________________  date: __________________________  name: __________________________