Specification for crystal filter: **Q F 140.0-50000/06**

1. General
1.1. Package:

1.2. Type name: QF 140.0-50000/06
1.3. Number of poles: 4
1.4. Operating temperature range: -40°C to +85°C
1.5. Storage temperature range: -55°C to +85°C

2. Electric values
2.1. Nominal centre frequency \( f_0 \): 140.0 MHz
2.2. **Pass band**
   2.2.1. Bandwidth between 3 dB - frequencies: \( f_0 \pm 250 \text{ kHz} \)
   2.2.2. Ripple: \(< 2.0 \text{ dB at } f_0 \pm 180 \text{ kHz} \)
   2.2.3. Insertion loss: \(< 5.0 \text{ dB} \)

2.3. **Stop band**
2.3.1. \( f_0 \pm 900 \text{ kHz} \) > 40 dB (except spurious)
2.3.2. alternate attenuation > 60 dB (except spurious)
2.4. Terminating impedance R/C (input and output): 50 Ω // 0 pF
2.5. Input power level for reference measurement: -10 dBm
2.5.1. Maximum input power level without destruction: +5 dBm

3. Marking: manufacturer, date code
   QF 140.0-50000/06

4. Environment conditions: Corresponding to Vectron standard CF001

5. Filters are Pb-free and 2002/95/EC RoHS compliant
6. Air reflow temperature conditions

<table>
<thead>
<tr>
<th>conditions</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>average ramp-up rate (30°C to 217°C)</td>
<td>less than 3°C/second</td>
</tr>
<tr>
<td>&gt; 100°C</td>
<td>between 300 and 600 seconds</td>
</tr>
<tr>
<td>&gt; 150°C</td>
<td>between 240 and 500 seconds</td>
</tr>
<tr>
<td>&gt; 217°C</td>
<td>between 30 and 150 seconds</td>
</tr>
<tr>
<td>peak temperature</td>
<td>max. 260°C</td>
</tr>
<tr>
<td>time within 5°C of peak temperature</td>
<td>between 10 and 30 seconds</td>
</tr>
<tr>
<td>cool-down rate (starting at peak temperature to 50°C)</td>
<td>less than 6°C / second</td>
</tr>
<tr>
<td>time from 30°C to peak temperature</td>
<td>no more than 300 seconds</td>
</tr>
</tbody>
</table>

![Chip-mount air reflow profile](image)
7. Taping:

Maximum 500 pcs. / reel

Tape dimension (mm)

Tape (all dimensions in mm):

- **W**: 56.0 ± 0.3
- **So**: 52.4 ± 0.1
- **Po**: 4.0 ± 0.1
- **P1**: 20.0 ± 0.1
- **P2**: 2.0 ± 0.15
- **Do**: 1.5 ± 0.1
- **E**: 1.75 ± 0.1
- **F**: 26.2 ± 0.15
- **Ko**: 6.6 ± 0.1
- **Ao**: 13.2 ± 0.1
- **Bo**: 32.3 ± 0.1
- **t**: 0.4 ± 0.05

Reel (all dimension in mm):

- **A**: ø 330 max.
- **C**: ø 13.0 +0.5/-0.2
- **N**: ø 100 min.
- **W1**: 45.5 ± 0.25
- **W2**: 49.5 ± 0.5

Edited by: __________________________ date: __________________________ name: __________________________