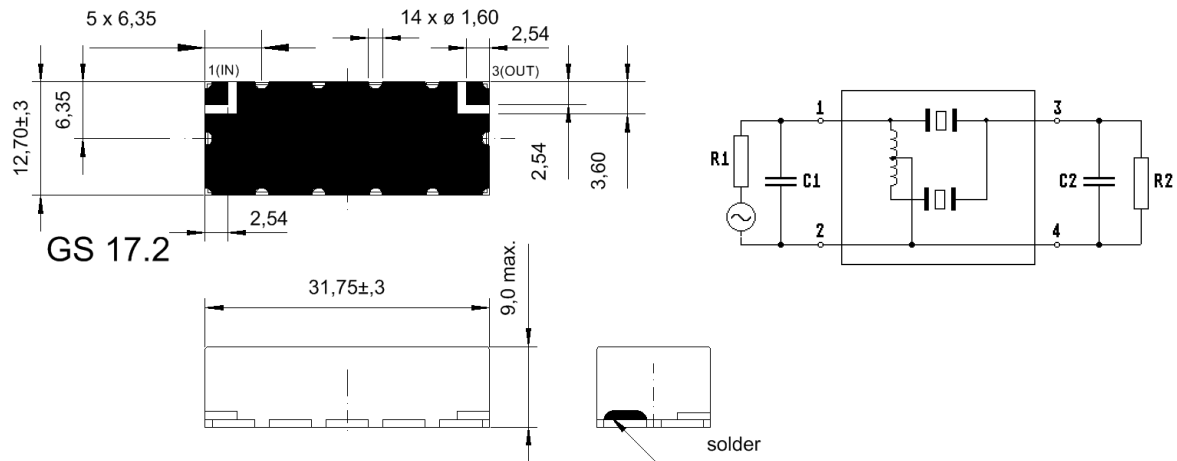


Specification for crystal filter:

**QF 140.0-5000/07**
**1. General**
**1.1. Package:**


- |   |                  |
|---|------------------|
| 1.2. Type name:                               | QF 140.0-5000/07 |
| 1.3. Number of poles:                         | 4                |
| 1.4. Operating and storage temperature range: | -40°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:                                | $> f_0 \pm 25$ kHz             |
| 2.2.2. Ripple:  | $< 2.0$ dB at $f_0 \pm 20$ kHz |
| 2.2.3. Insertion loss:<br>( measured on smallest attenuation in pass band ) | $< 5.0$ dB                     |

**2.3. Stop band**

- |                              |                             |
|------------------------------|-----------------------------|
| 2.3.1. $f_0 \pm 110$ kHz     | $> 40$ dB (except spurious) |
| 2.3.2. alternate attenuation | $> 60$ dB (except spurious) |

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

- |   |         |
|---|---------|
| 2.5. Input power level for reference measurement: | -10 dBm |
|---|---------|

- |   |        |
|---|--------|
| 2.5.1. Maximum input power level without destruction: | +5 dBm |
|---|--------|

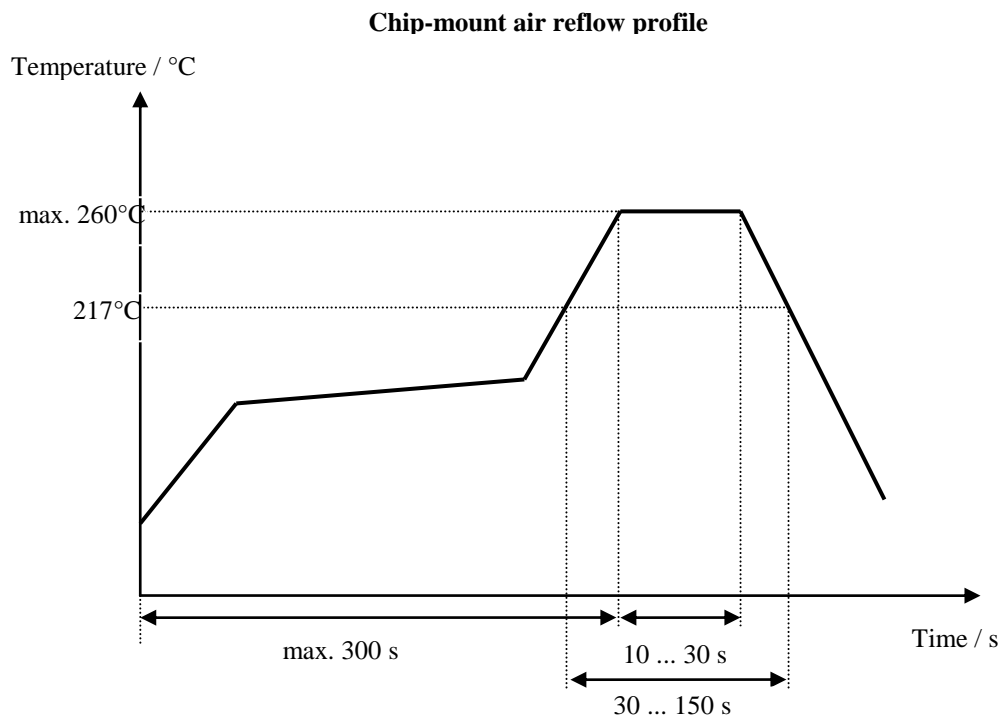
- |             |   |
|-------------|---|
| 3. Marking: | manufacturer, date code<br>QF 140.0-5000/07 |
|-------------|---|

- |                            |                      |
|----------------------------|----------------------|
| 4. Environment conditions: | Vectron MIL standard |
|----------------------------|----------------------|

- |   |  |
|---|--|
| 5. Filters are Pb-free and 2002 /95 / EC RoHS compliant |  |
|---|--|

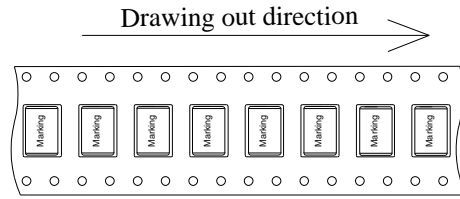
## 6. Air reflow temperature conditions

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

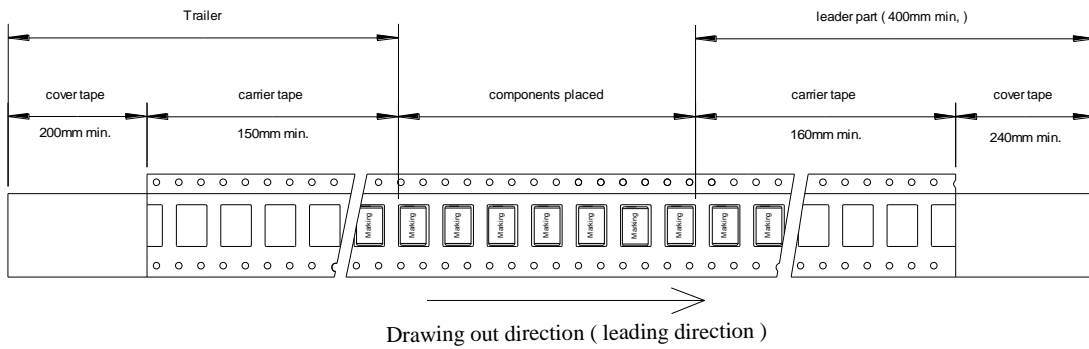


7. Taping:

Maximum 500 pcs. / reel

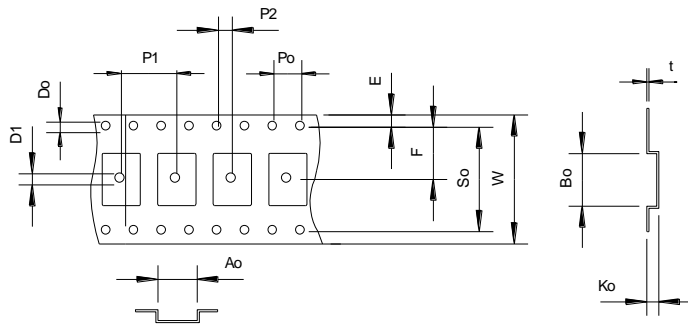


Tape dimension ( mm )



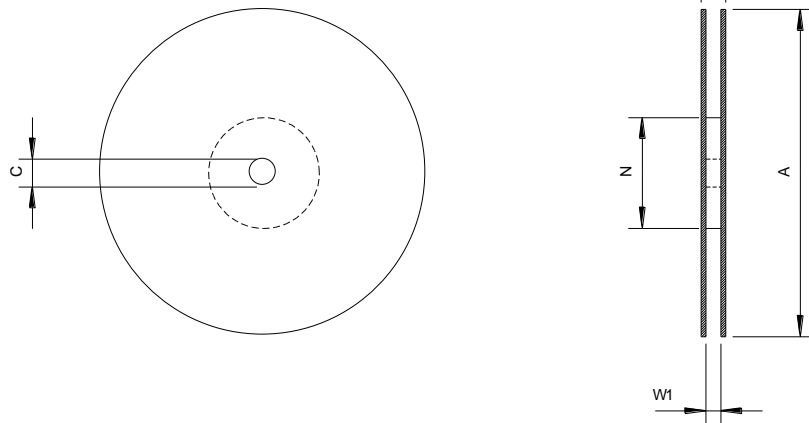
Tape ( all dimensions in mm )

- W:  $56.0 \pm 0.3$
- So:  $52.4 \pm 0.1$
- Po:  $4.0 \pm 0.1$
- P1:  $20.0 \pm 0.1$
- P2:  $2.0 \pm 0.15$
- Do:  $1.5 + 0.1 / -0$
- D1: 2.0 min.
- E:  $1.75 \pm 0.1$
- F:  $26.2 \pm 0.15$
- Ko:  $6.6 \pm 0.1$
- Ao:  $13.2 \pm 0.1$
- Bo:  $32.3 \pm 0.1$
- t:  $0.4 \pm 0.05$



Reel ( all dimension in mm )

- A:  $\varnothing 330 \text{ max.}$
- C:  $\varnothing 13.0 + 0.5 / -0.2$
- N:  $\varnothing 100 \text{ min.}$
- W1:  $45.5 \pm 0.25$
- W2:  $49.5 \pm 0.5$



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