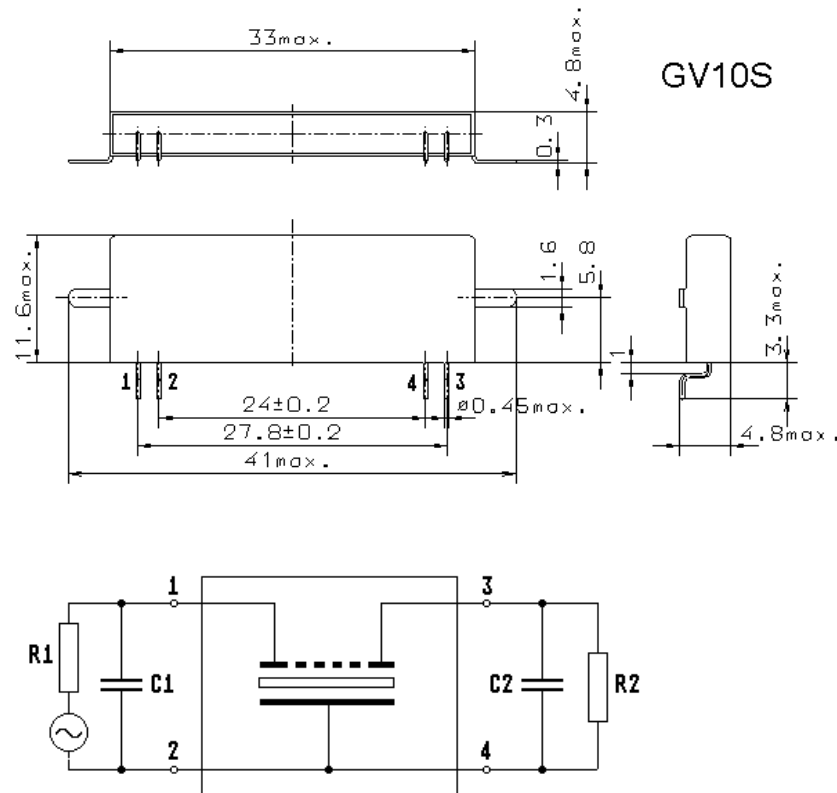


Specification for monolithic crystal filter:

MQF 21.4-1700/12

1. General

1.1. Package:



- | | |
|-----------------------------------|------------------|
| 1.2. Type name: | MQF 21.4-1700/12 |
| 1.3. Number of poles: | 8 |
| 1.4. Operating temperature range: | -20°C to +70°C |
| 1.5. Storage temperature range: | -35°C to +85°C |

2. Electric values

- | | |
|---------------------------------------|----------|
| 2.1. Nominal centre frequency f_0 : | 21.4 MHz |
|---------------------------------------|----------|

2.2. Pass band

- | | |
|---|----------------------------------|
| 2.2.1. Bandwidth between 3 dB - frequencies: | $\geq f_0 \pm 8.5$ kHz |
| 2.2.2. Ripple: | ≤ 2.0 dB at $f_0 \pm 7$ kHz |
| 2.2.3. Insertion loss:
(measured on smallest attenuation in pass band) | ≤ 3.0 dB |

2.3. Stop band

- | | |
|---|----------------------------------|
| 2.3.1. $f_0 \pm 18.5$ kHz | ≥ 60 dB |
| 2.3.2. $f_0 \pm 30$ kHz..... ± 5000 kHz | ≥ 90 dB (except spurious) |

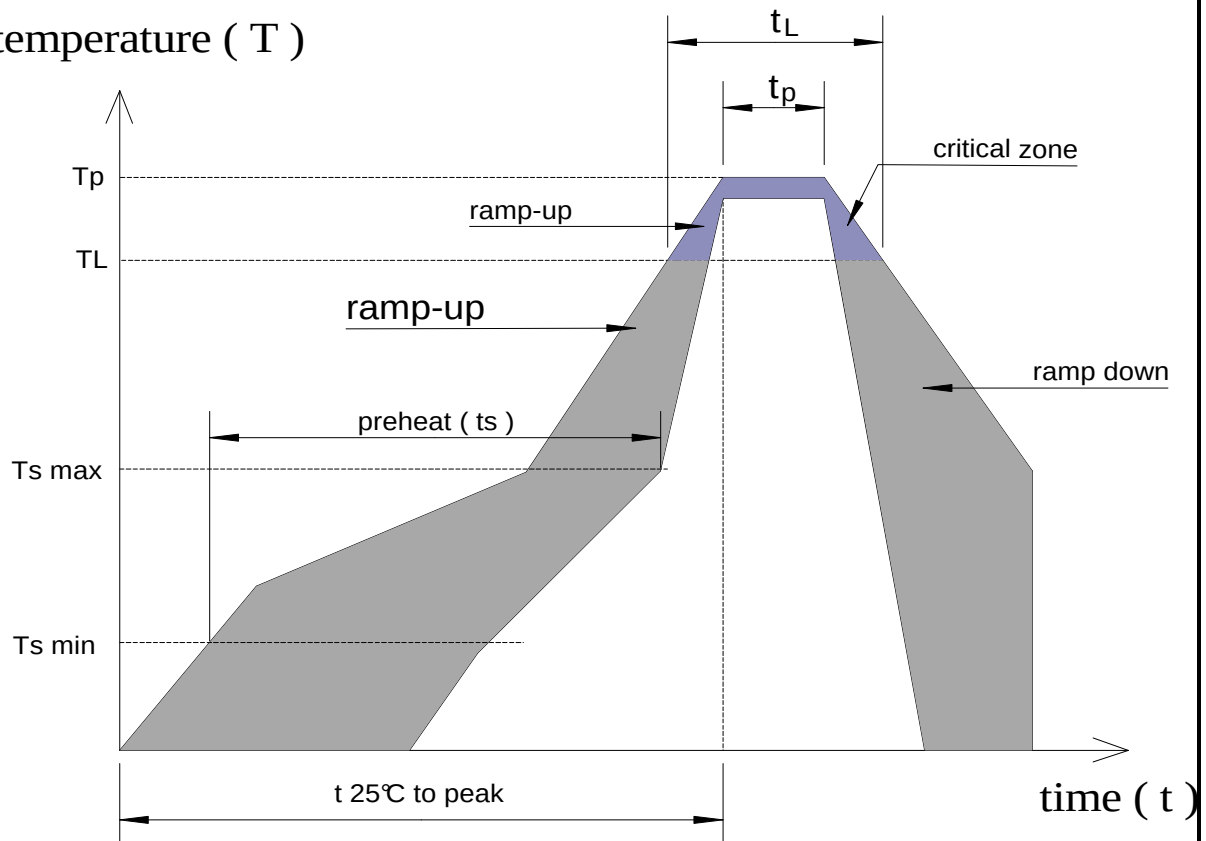
- | | |
|--|-------------------------|
| 2.4. Terminating impedance (input and output): | $1800 \Omega // 1.0$ pF |
|--|-------------------------|

- | | |
|-------------|---|
| 3. Marking: | manufacturer, date code
MQF 21.4-1700/12 |
|-------------|---|

- | | |
|----------------------------|---|
| 4. Environment conditions: | Corresponding to Vectron standard CF001 |
|----------------------------|---|

5.) Reflow profile corr. to IPC / JEDEC J-STD-020C

temperature (T)

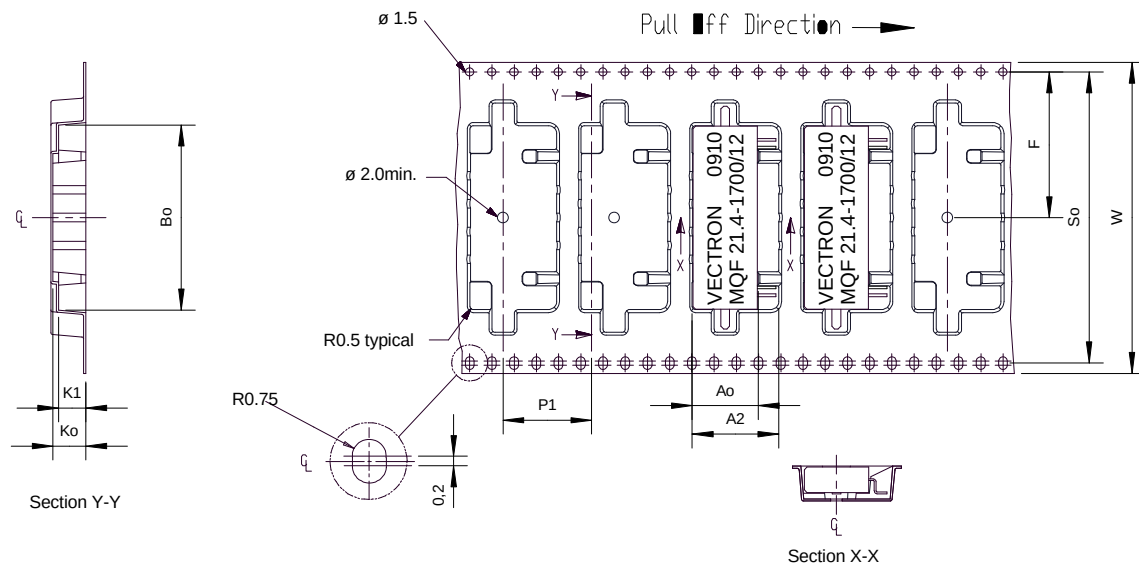


Profile Feature	Pb-free assembly	
	large body	small body
Average ramp-up rate (TL to T_p)	3°C / second max.	
Average ramp-up rate ($T_{s\ max}$ to T_L)	3°C / second max.	
Preheat:		
- Temperature Min $T_{s\ min}$	150°C	
- Temperature Min $T_{s\ max}$	200°C	
- Time t_s ($T_{s\ min}$ to $T_{s\ max}$)	60-180 seconds	
Time maintained above:		
- Temperature T_L	217°C	
- Time t_L	60-150 seconds	
Peak temperature T_p	260 +0/-6°C	
Time within 5°C of actual peak temperature T_p	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

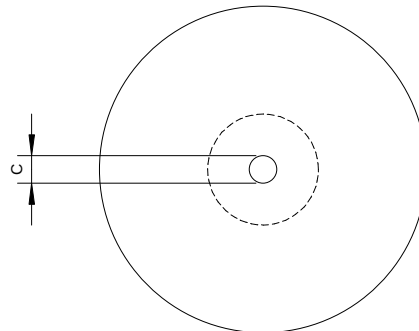
6. Taping:

500 pcs. / reel maximum



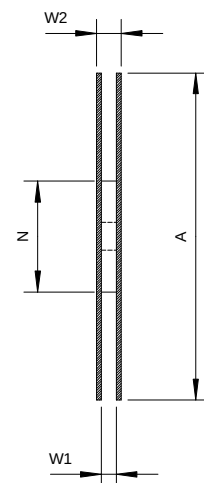
Tape (all dimensions in mm)

W: 56.0 ± 0.3
P1: 20.0 ± 0.1
F: 26.2 ± 0.15
Ko: 5.9 ± 0.2
K1: 4.9 ± 0.1
Ao: 11.9 ± 0.1
A2: 15.6 ± 0.2
Bo: 33.3 ± 0.1
So: 52.4 ± 0.1



Reel (all dimension in mm)

A: $\phi 330 \text{ max.}$
C: $\phi 13 \pm 0.5$
N: $\phi 20.2 \text{ min}$
W1: $56.4 +1 / -0$
W2: 61.0 ± 1.5



Edited by: _____ date: _____ name: _____