# Microwave Ceramics Filter

3-pole filter for IMT 2000/CDMA 2000/UMTS/WCDMA

**Series/Type:** **S3S2/14/1**
**Ordering code:** **B69813N1957A560**

Date: 2010-02-16
Version: P8

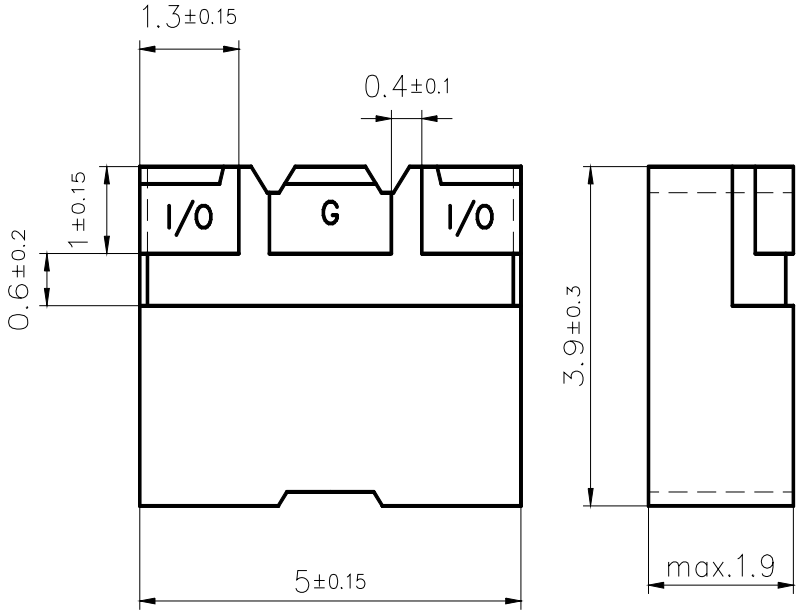
## Modification

| | | | |
|---|---|---|---|
| P3 | Component drawing | 05.01.01 | Freising |
| P4 | Marking | 19.11.03 | Stadler |
| P5 | Tape drawing | 09.02.04 | Freising |
| P6 | Pieces/tape | 26.02.04 | |
| P7 | Marking | 28.06.04 | Freising |
| P8 | Upgraded to new form | 16.02.10 | Reichel |

## Features

- SMD filter consisting of coupled resonators with stepped impedances
- (NdBa)$TiO_3$ ($\varepsilon_r$ = 88/$TC_f$ = 0 ±10 ppm/K) with a coating of copper (10 μm) and tin (>5 μm)
- Excellent reflow solderability, no migration effect due to copper/tin metallization

## Component drawing

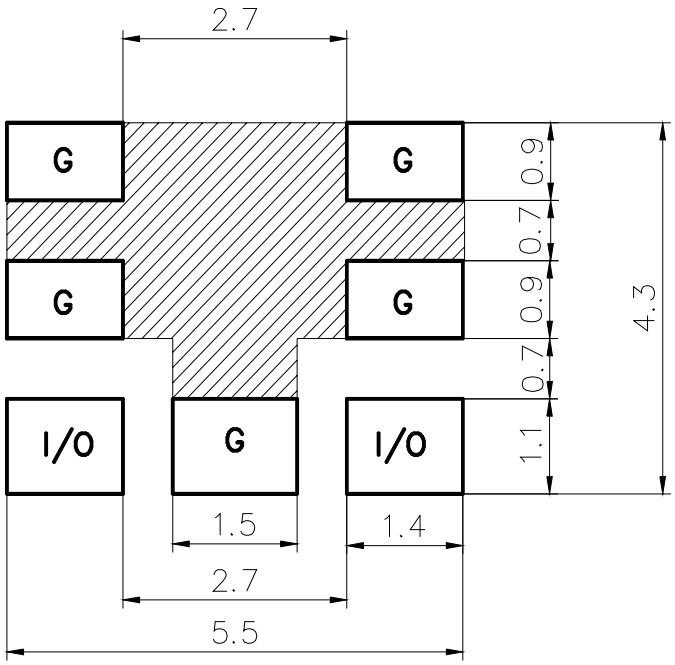



Marking


y= calendar year
w= calendar week
e.g.: 427= calendar year 2004, calendar week 27

View from below onto the solder terminals and view from beside

## Recommended footprint




solder pads

ground area below solder resist with vias to second ground layer

I/O connected to lines with an impedance of 50 Ohm

**Standard condition**
FR4 material
permitivity : 4.4
preferred thickness : 0.3
Vias: Ø0.3mm / mm²
For other thickness correlation might be necessary

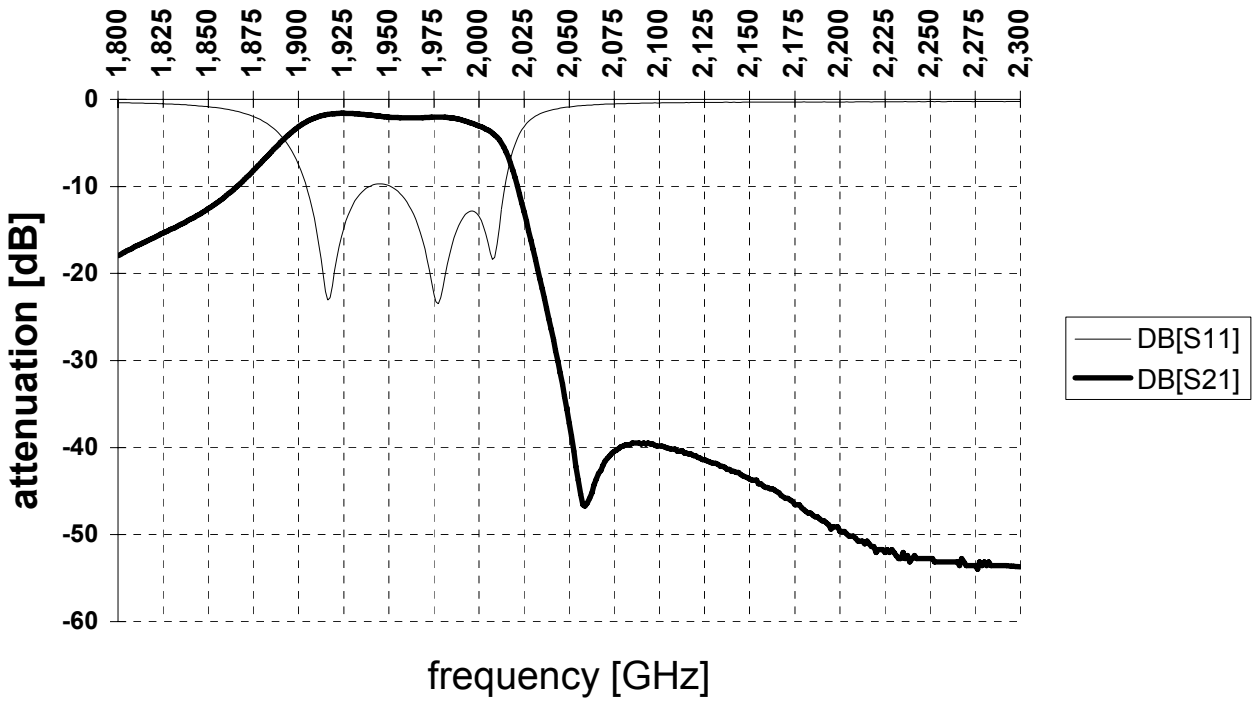
## Characteristics

| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| Center frequency | $f_C$ | – | 1950 | – | MHz |
| Insertion loss | $\alpha_{IL}$ | | 1.5 | 1.8 | dB |
| Passband | B | 60 | | | MHz |
| Amplitude ripple (peak – peak) | $\Delta\alpha$ | | | 1.5 | dB |
| Standing wave ratio | SWR | | | 2.2 | |
| Impedance | Z | | 50 | | Ω |
| Attenuation | $\alpha$ | | | | |
| at 2110 to 2170 MHz | | 40 | | | dB |

## Maximum ratings

| | | | |
|---|---|---|---|
| IEC climatic category (IEC 68-1) | | –40 °C/+90 °C/56 | |
| Operating temperature | $T_{op}$ | –25/+85 | °C |

## Typical passband characteristic



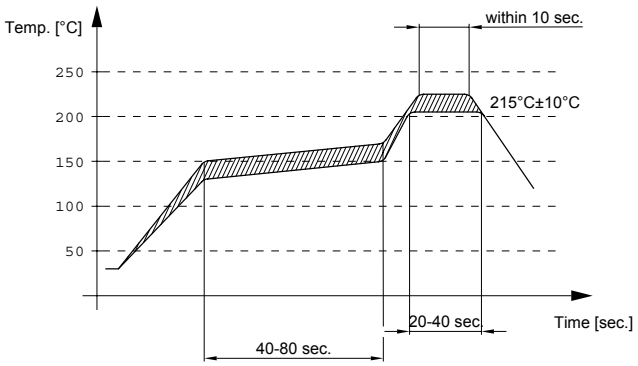
## Processing information

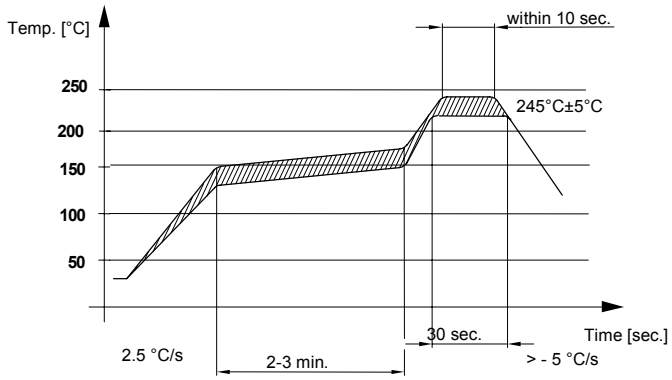
- Wettability acc. to IEC 68-2-58: ≥75% (after aging)

## Soldering requirements

| | Profile for eutectic SnPb solder paste | Profile for leadfree solder paste | |
|---|---|---|---|
| Soldering type | reflow | reflow | |
| Maximum soldering temperature | 235 (max. 2 sec.) | 260 (max. 2 sec.) | °C |
| (measuring point on top surface of the component) | 225 (max. 10 sec.) | 250 (max. 10 sec.) | °C |

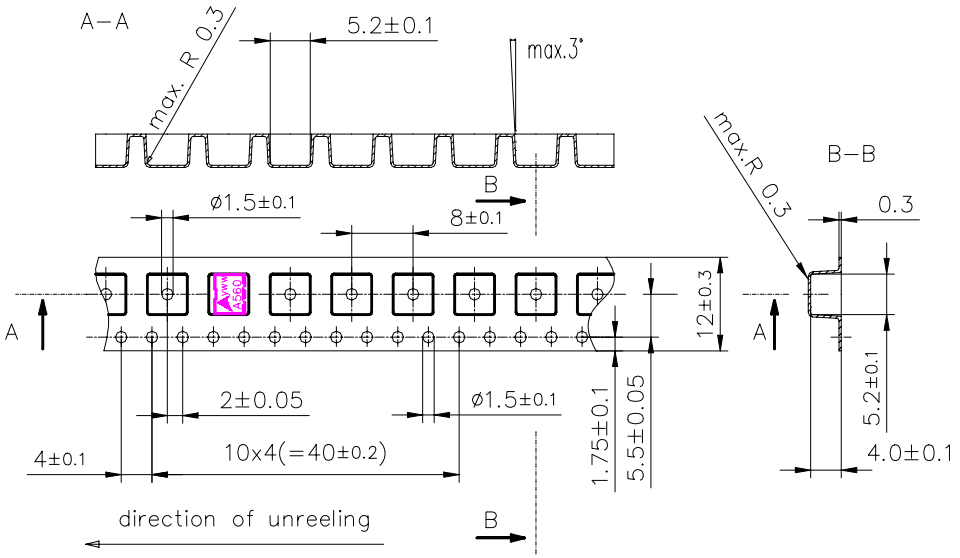
Recommended soldering conditions (infrared):




## Delivery mode

- Blister tape acc. to IEC 286-3, PS, grey
- Pieces/tape: 3000



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