

**VI TELEFILTER****Filter specification****TFS 800A****1/5****Measurement condition**

|                        |    |     |
|------------------------|----|-----|
| Ambient temperature:   | 23 | °C  |
| Input power level:     | 0  | dBm |
| Terminating impedance: |    |     |
| Input:                 | 50 | Ω   |
| Output:                | 50 | Ω   |

**Characteristics****Remark:**

The maximum attenuation in the pass band is defined as the insertion loss  $a_e$ . The nominal frequency  $f_N$  is fixed at 800 MHz without any tolerance or limit. The values of absolute attenuation  $a_{abs}$  are guaranteed for the whole operating temperature range. The frequency shift of the filter in the operating temperature range is included in the production tolerance scheme.

| <b>D a t a</b>                              |                 | <b>typ. value</b> |       | <b>tolerance / limit</b> |         |     |
|---------------------------------------------|-----------------|-------------------|-------|--------------------------|---------|-----|
| <b>Insertion loss</b>                       | $a_e = a_{max}$ | 1,7               | dB    | max.                     | 3,0     | dB  |
| <b>Nominal frequency</b>                    | $f_N$           | -                 |       |                          | 800,0   | MHz |
| <b>Passband</b>                             | PB              | -                 |       | $f_N \pm$                | 6,0     | MHz |
| <b>Pass band ripple</b>                     |                 | 0,5               | dB    | max.                     | 1,0     | dB  |
| <b>Absolute attenuation</b>                 | $a_{abs}$       |                   |       |                          |         |     |
| 0,3 MHz ... 770 MHz                         |                 | 43                | dB    | min.                     | 40      | dB  |
| 820 MHz ... 836 MHz                         |                 | 44                | dB    | min.                     | 10      | dB  |
| 881 MHz ... 1200 MHz                        |                 | 48                | dB    | min.                     | 40      | dB  |
| 1200 MHz ... 2000 MHz                       |                 | 33                | dB    | min.                     | 20      | dB  |
| <b>VSWR within PB</b>                       |                 | 1,8 : 1           |       | max.                     | 2,2 : 1 |     |
| <b>Input power level **</b>                 |                 | -                 |       | max.                     | 10      | dBm |
| <b>Operating temperature range</b>          | OTR             | -                 |       | - 30 °C ... + 70 °C      |         |     |
| <b>Storage temperature range</b>            |                 | -                 |       | - 40 °C ... + 85 °C      |         |     |
| <b>Temperature coefficient of frequency</b> | $TC_f^*$        | -42               | ppm/K | -                        |         |     |

\*)  $\Delta f_c(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_o) \times f_o(\text{MHz})$ .

\*\*) also guaranteed are 27dBm for 48 hours

**Generated:****Checked / Approved:**

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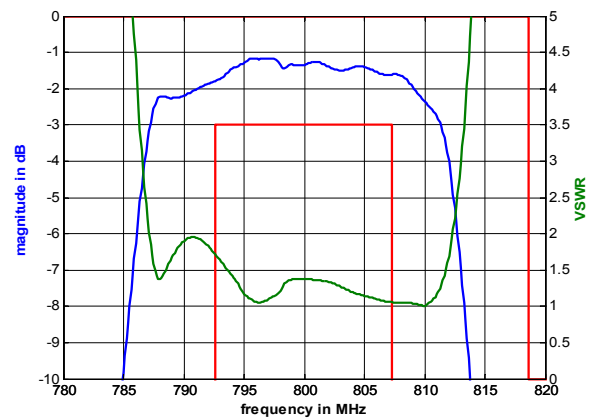
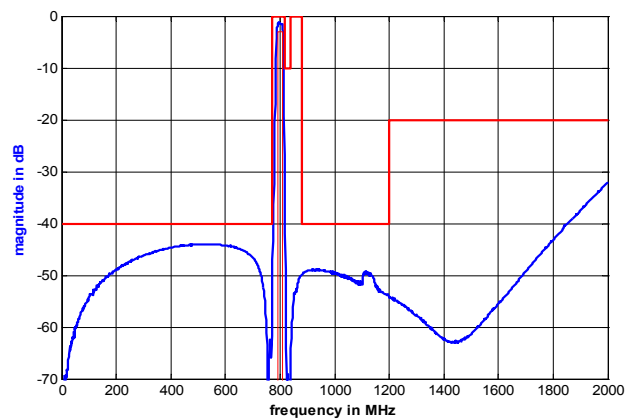
# VI TELEFILTER

## Filter specification

TFS 800A

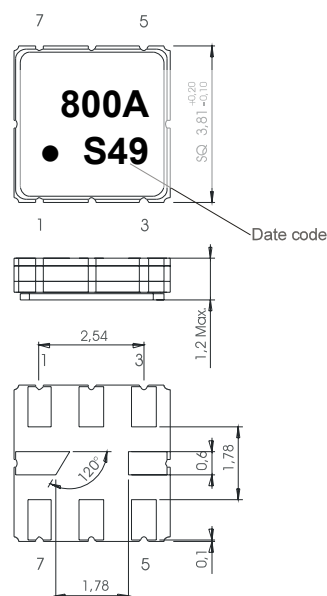
2/5

### Filter characteristic



### Construction and pin connection

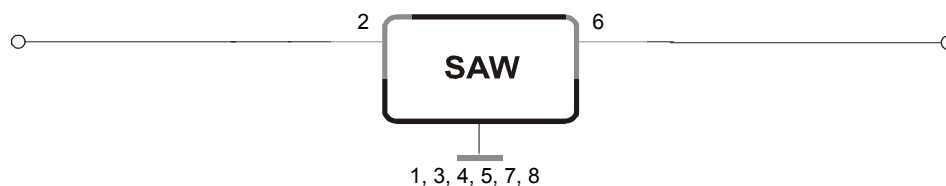
(All dimensions in mm)



|   |        |
|---|--------|
| 1 | Ground |
| 2 | Input  |
| 3 | Ground |
| 4 | Ground |
| 5 | Ground |
| 6 | Output |
| 7 | Ground |
| 8 | Ground |

|            |             |
|------------|-------------|
| Date code: | Year + week |
| S          | 2004        |
| T          | 2005        |
| U          | 2006        |
| ...        |             |

### 50 $\Omega$ Test circuit



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**VI TELEFILTER****Filter specification****TFS 800A****3/5****Stability characteristics**

After the following tests the filter shall meet the whole specification:

1. Shock: 500g, 18 ms, half sine wave, 3 shocks each plane;  
DIN IEC 68 T2 - 27
2. Vibration: 10 Hz to 500 Hz, 0,35 mm or 5 g respectively, 1 octave per min, 10 cycles per plan, 3 plans;  
DIN IEC 68 T2 - 6
3. Change of temperature: -55 °C to 125°C / 30 min. each / 10 cycles  
DIN IEC 68 part 2 – 14 Test N
4. Resistance to solder heat (reflow): reflow possible: twice max.;  
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

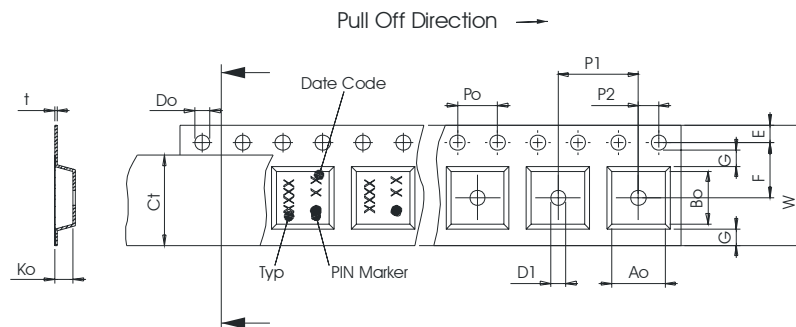
**Packing**

Tape & Reel: IEC 286 – 3, with exeption of value for N and minimum bending radius;  
tape type II, embossed carrier tape with top cover tape on the upper side;

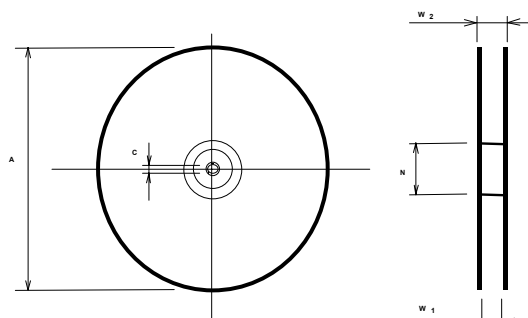
max. pieces of filters peer reel: 3000  
reel of empty components at start: min. 300 mm  
reel of empty components at start including leader: min. 500 mm  
trailer: min. 300 mm

**Tape (all dimensions in mm)**

|         |                |
|---------|----------------|
| W       | : 12,00 ± 0,3  |
| Po      | : 4,00 ± 0,1   |
| Do      | : 1,50 +0,1/-0 |
| E       | : 1,75 ± 0,1   |
| F       | : 5,50 ± 0,05  |
| G(min)  | : 0,75         |
| P2      | : 2,00 ± 0,05  |
| P1      | : 8,00 ± 0,1   |
| D1(min) | : 1,50         |
| Ao      | : 4,30 ± 0,1   |
| Bo      | : 4,30 ± 0,1   |
| Ct      | : 9,5 ± 0,1    |

**Reel (all dimensions in mm)**

|         |                  |
|---------|------------------|
| A       | : 330            |
| W1      | : 12,4 +2/-0     |
| W2(max) | : 18,4           |
| N(min)  | : 50             |
| C       | : 13,0 +0,5/-0,2 |



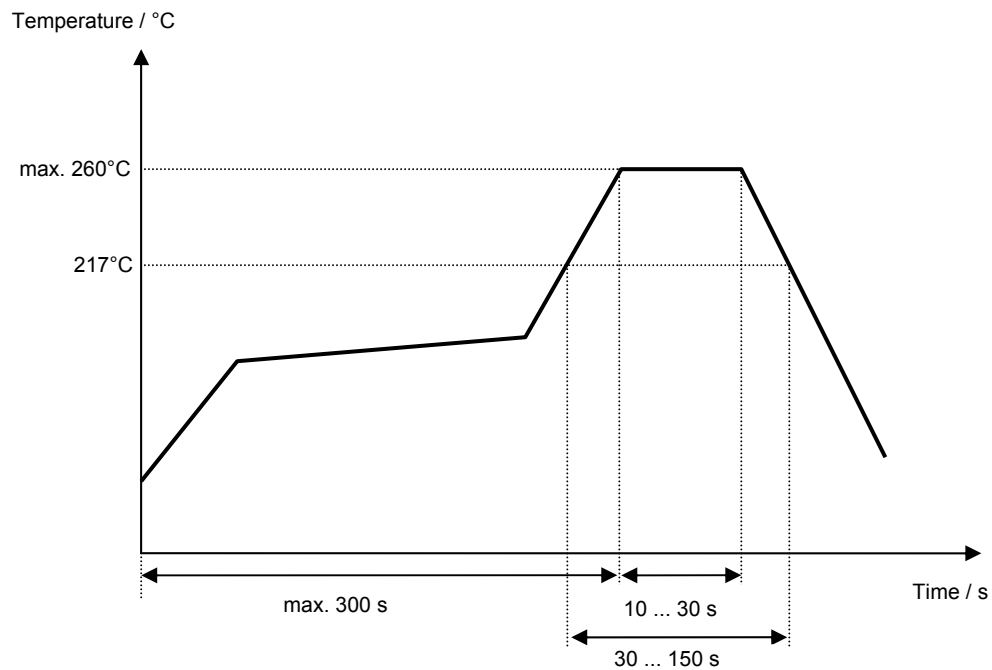
The minimum bending radius is 45 mm.

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**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 actual peak temperature | between 10 and 30 seconds   |
| Cool-down rate (Peak to 50°C)              | less than 6°C/second        |
| Time from 30°C to Peak temperature         | no greater than 300 seconds |

**Chip-mount air reflow profile**

**VI TELEFILTER****Filter specification****TFS 800A****5/5****History**

| <b>Version</b> | <b>Reason of Changes</b>             | <b>Name</b> | <b>Date</b> |
|----------------|--------------------------------------|-------------|-------------|
| 1.0            | - Generation of filter specification | Martens     | 30.11.2004  |