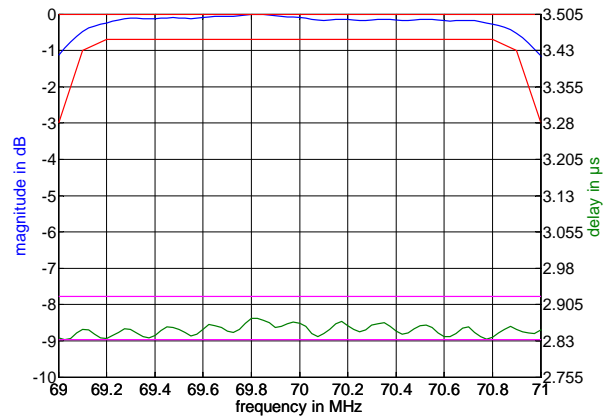
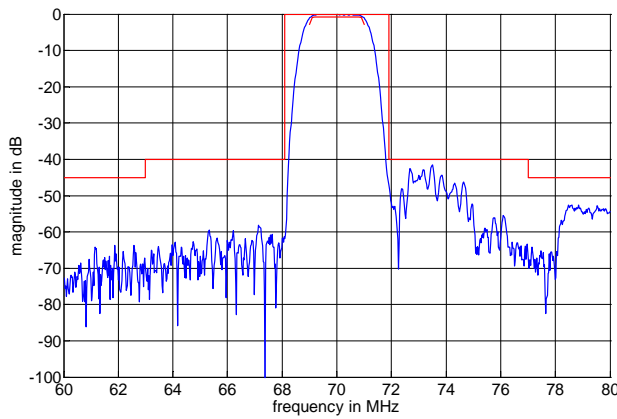


**VI TELEFILTER**

**Filter specification**

**TFS 70H26A**

**Measurement condition**



| Parameter  | Symbol           | Typ. value | Unit       | Tolerance / min.                     |
|--|------------------|------------|------------|--------------------------------------|
| <b>Insertion loss</b><br>(reference level)           | $a_e$            | 23         | dB         | max. 26 dB                           |
| <b>Centre frequency</b>                              | $f_c$            | 70,0       | MHz        | $70,0 \pm 0,08$ MHz                  |
| <b>Passband</b>                                      |                  |            |            | $f_c \pm 1,00$ MHz                   |
| <b>Bandwidth</b>                                     | BW               |            |            |                                      |
| 1 dB   |                  | 1,90       | MHz        | min. 1,8 MHz                         |
| 3 dB   |                  | 2,31       | MHz        | min. 2,0 MHz                         |
| 40 dB  |                  | 3,60       | MHz        | max. 3,8 MHz                         |
| <b>Relative attenuation</b>                          | $a_{rel}$        |            |            |                                      |
| $f_c$  |                  | 0,4        | dB         | max. 0,7 dB                          |
| $f_c \pm 0,8$ MHz                                    |                  | 0,5        | dB         | max. 1 dB                            |
| $f_c \pm 0,9$ MHz                                    |                  | 1,2        | dB         | max. 3 dB                            |
| $f_c \pm 1,9$ MHz                                    |                  | 43         | dB         | min. 40 dB                           |
| $f_c \pm 7,0$ MHz                                    |                  | 50         | dB         | min. 45 dB                           |
| <b>Group delay</b>                                   | mean value in PB | 2,85       | $\mu s$    | max. 3,5 $\mu s$<br>min. 2,5 $\mu s$ |
| <b>Group delay ripple within PB</b>                  |                  | 45         | ns         | max. 90 ns                           |
| <b>Deviation from linear phase within PB</b>         |                  | 2,2        | $^\circ$   | max. 4 $^\circ$                      |
| <b>Triple transit response suppression</b>           |                  | 56         | dB         | -                                    |
| <b>Crosstalk attenuation compared to main signal</b> |                  | 50         | dB         | -                                    |
| <b>Operating temperature range</b>                   | OTR              | -          |            | - 40 $^\circ C$ ... + 85 $^\circ C$  |
| <b>Storage temperature range</b>                     |                  | -          |            | - 55 $^\circ C$ ... + 85 $^\circ C$  |
| <b>Frequency inversion temperature</b>               |                  | 32         | $^\circ C$ | -                                    |
| <b>Temperature coefficient of frequency</b>          | $TC_f$ **        | - 0,04     | ppm/ $K^2$ | -                                    |

\*) The terminating impedances depend on parasitics and q-values of matching elements and the board used, and are to be understood as reference values only. Should there be additional questions do not hesitate to ask for an application note or contact our design team.

\*\*)  $\Delta f(Hz) = TC_f(ppm/K) \times (T-T_0)^2 \times f_{T0}(MHz)$ .

**Generated:**

**Checked / Approved:**

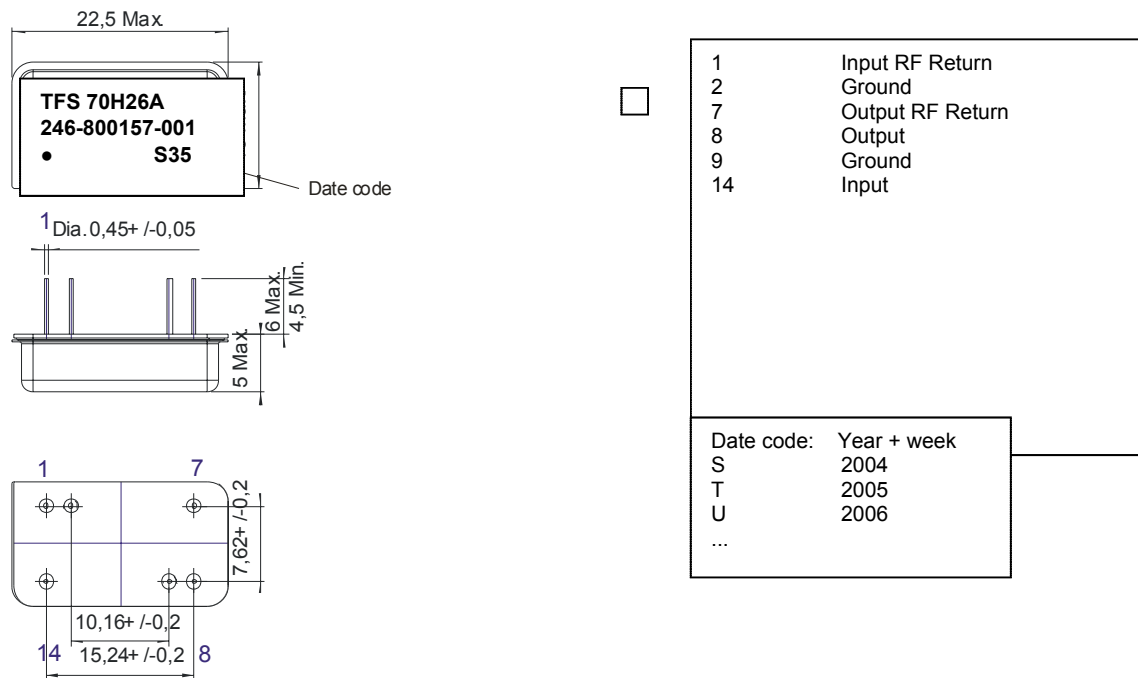
**Filter characteristic**

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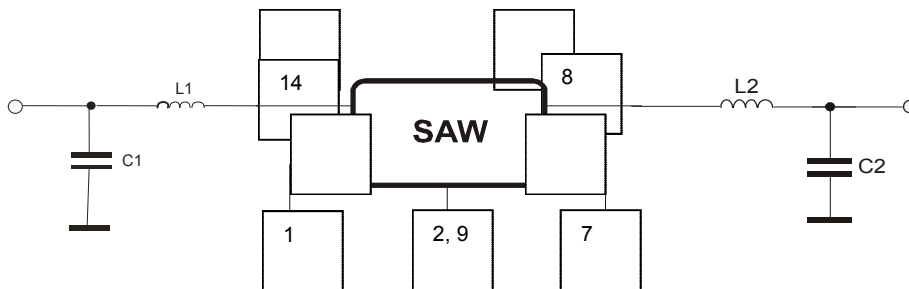
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**Construction and pin connection**

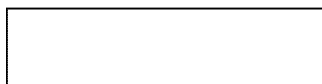
(All dimensions in mm)



**50 Ohm Test circuit**



**Stability characteristics :**



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**VI TELEFILTER****Filter specification****TFS 70H26A****3/5**

After the following tests the filter shall meet the product specification

- |                  |   |
|------------------|---|
| 1. Shock:        | 30g, 11 ms, sawtooth<br>MIL-STD-202, Method 216, test condition A   |
| 2. Vibration:    | 10 Hz to 2000 Hz, 15g, 20min per cycle, 12 cycles per plan, 3 plans;<br>MIL-STD 202, Method 204, test condition B |
| 3. Thermal shock | -40°C to 85°C, 5 cycles<br>MIL-STD 202, Method 107, test condition A  |

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**Air reflow temperature conditions :**

1st and 2nd air reflow profile

| <b>Name:</b>        | pre-heating periods | main-heating periods | peak temperature |
|---------------------|---------------------|----------------------|------------------|
| <b>Temperature:</b> | 150 °C - 170 °C     | over 200 °C          | 255 °C ± 5 °C    |
| <b>Time:</b>        | 60 sec. - 90 sec.   | 20 sec. - 25 sec.    |                  |

**Air reflow profile**

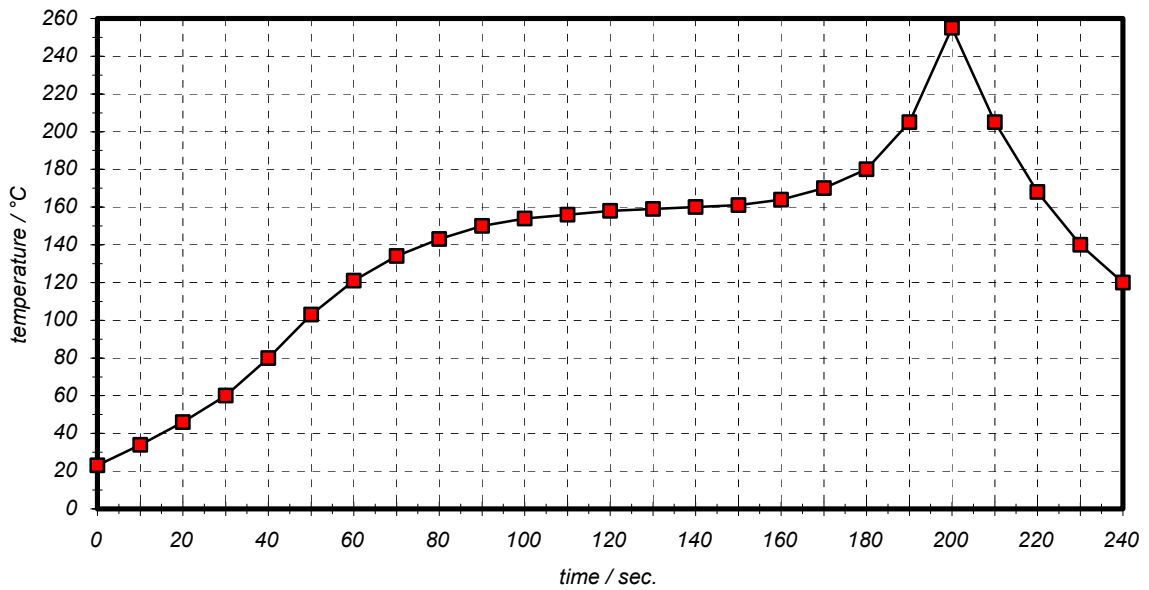


Table for temperature vs. time during the air reflow process

Tolerance of temperatures: ± 5 °C

| time / sec. | temperature / °C | time / sec. | temperature / °C |
|-------------|------------------|-------------|------------------|
| 0           | 23               | 140         | 160              |
| 10          | 34               | 150         | 161              |
| 20          | 46               | 160         | 164              |
| 30          | 60               | 170         | 170              |
| 40          | 80               | 180         | 180              |
| 50          | 103              | 190         | 205              |
| 60          | 121              | 195         | 230              |
| 70          | 134              | 200         | 255              |
| 80          | 143              | 205         | 230              |
| 90          | 150              | 210         | 205              |
| 100         | 154              | 215         | 180              |
| 110         | 156              | 220         | 165              |
| 120         | 158              | 230         | 140              |
| 130         | 159              | 240         | 120              |

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**VI TELEFILTER****Filter specification****TFS 70H26A****5/5**

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**History**

| <b>Version</b> | <b>Reason of changes</b>                         | <b>Name</b> | <b>Date</b> |
|----------------|--|-------------|-------------|
| 1.0            | filter specification created                     | Pfeiffer    | 17.06.2004  |
| 1.1            | operating and storage temperature range extended | Pfeiffer    | 26.08.2004  |

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