

VI TELEFILTER

Filter specification

TFS 150

1/5

Measurement condition

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Terminating impedance:
 Input: 930 Ω || -1,6 pF
 Output: 930 Ω || -1,6 pF

Characteristics

Remark:

The reference level for the relative attenuation a_{rel} of the TFS 150 is the maximum attenuation in the pass band. The maximum attenuation in the pass band is defined as the insertion loss a_e . The nominal frequency f_N is fixed at MHz without any tolerance or limit. The values of relative attenuation a_{rel} 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.

D a t a		typ. value	tolerance / limit
Insertion loss (reference level)	$a_e = a_{max}$	2,8 dB	max. 5 dB
Nominal frequency	f_N	-	150,05 kHz
Passband	PB	-	$f_N \pm 10$ kHz
Bandwidth 3 dB	BW	107 kHz	-
Relative attenuation $f_N + 910$ kHz	a_{rel}	65 dB	min. 60 dB
Operating temperature range	OTR	-	- 20 °C ... + 70 °C
Storage temperature range		-	- 30 °C ... + 75 °C
Frequency inversion temperature		+ 30 °C	-
Temperature coefficient of frequency	TC_f *	- 0,036 ppm/K ²	-

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

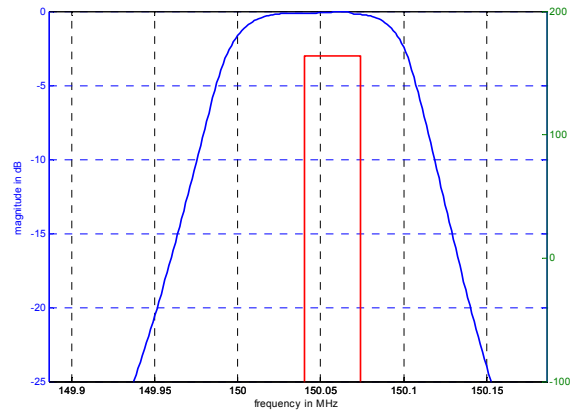
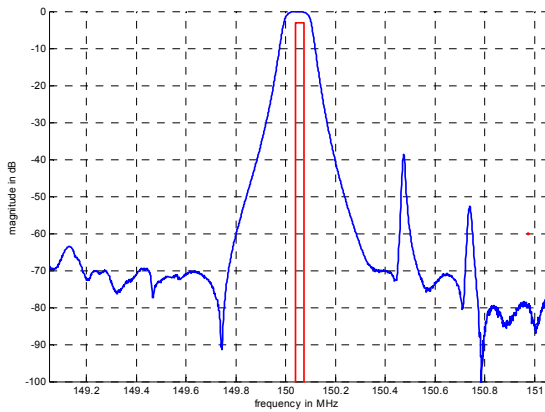
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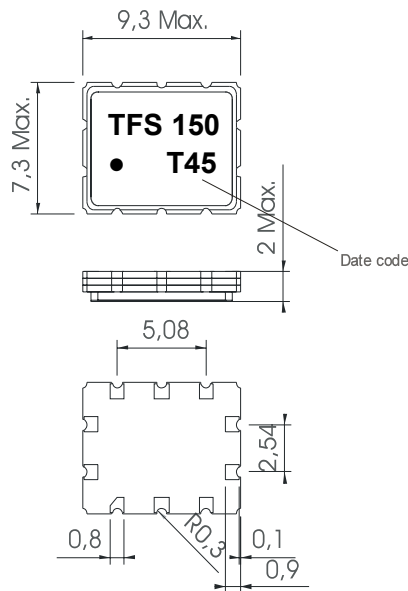
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Filter characteristic



Construction and pin connection

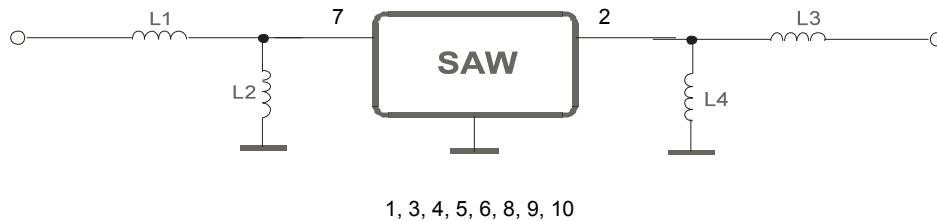
(All dimensions in mm)



1	Ground
2	Output
3	Ground
4	Ground
5	Ground
6	Ground
7	Input
8	Ground
9	Ground
10	Ground

Date code: Year + week
 T 2005
 U 2006
 V 2007
 ...

50 Ω Test circuit



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Stability characteristics

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

1. Shock: 500g, 1 ms, half sine wave, 3 shocks each plane;
DIN IEC 68 T2 - 27
2. Vibration: 10 Hz to 500 Hz, 0,35 mm or 5g 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;

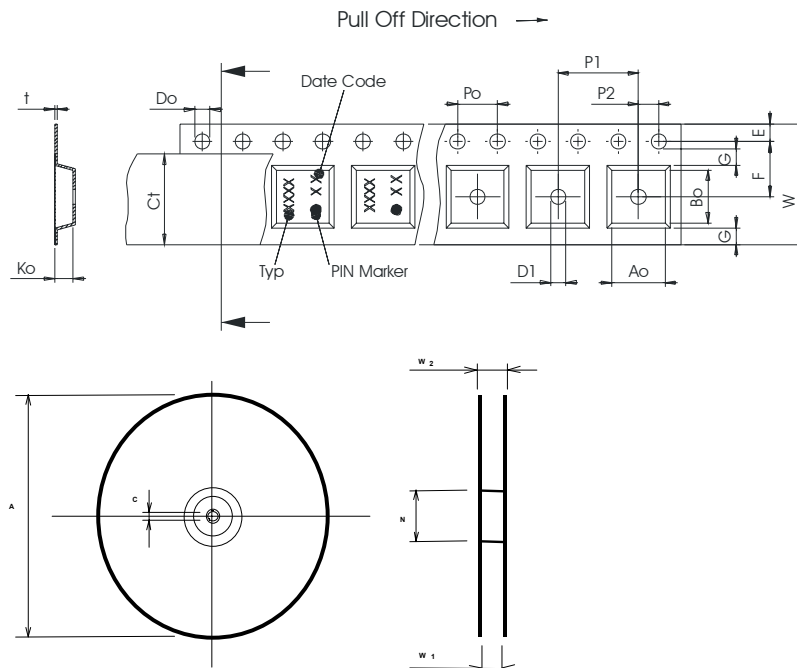
Packing

Tape & Reel: IEC 286 – 3, with exception 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:	2000
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 : 16,00 ± 0,3
- Po : 4,00 ± 0,1
- Do : 1,50 +0,1/-0
- E : 1,75 ± 0,10
- F : 7,50 ± 0,10
- G(min) : 0,60
- P2 : 2,00 ± 0,1
- P1 : 12,00 ± 0,1
- D1(min) : 1,50 +0,1/-0
- Ao : 7,60 ± 0,10
- Bo : 9,60 ± 0,10
- Ct : 13,5



The minimum bending radius is 45 mm.

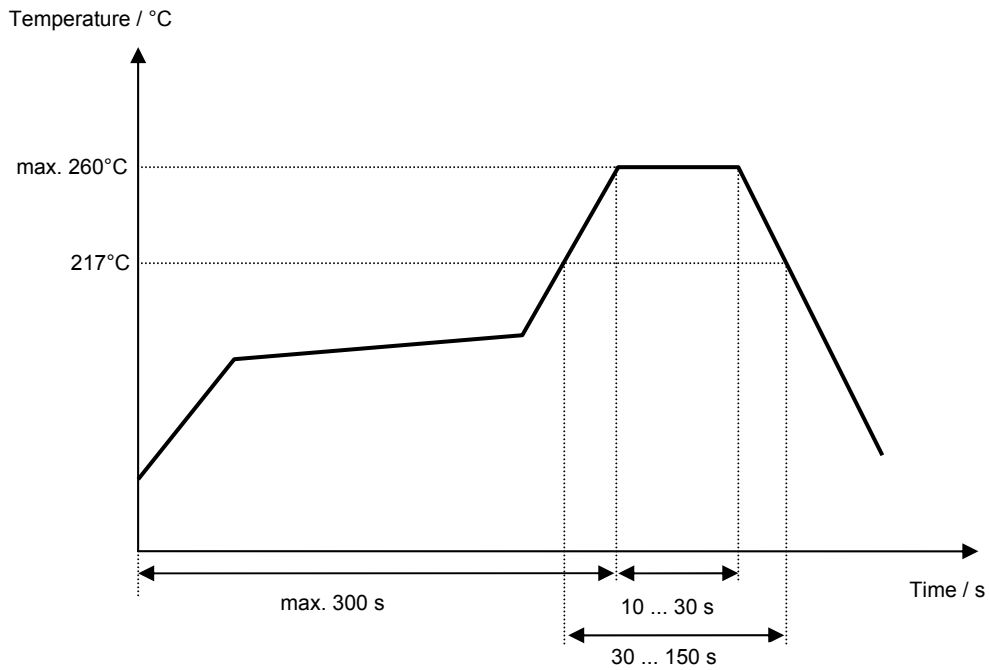
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Air reflow temperature conditions

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 150****5/5****History**

Version	Reason of Changes	Name	Date
1.2	- Add history, add filter characteristic	Channaa	11.11.2005

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