

**VI TELEFILTER****Filter specification****TFS 915B****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 915 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>	$a_e$	2,3 dB	max.	3,5	dB
<b>Nominal frequency</b>	$f_N$	-		915	MHz
<b>Passband</b>	PB	-	$f_N$	± 13	MHz
<b>Pass band ripple</b>		1,3 dB	max.	2,5	dB
<b>Absolute attenuation</b>	$a_{abs}$				
0,3 MHz ... 886 MHz		35 dB	min.	30	dB
886 MHz ... 888 MHz		40 dB	min.	25	dB
941 MHz ... 943 MHz		45 dB	min.	25	dB
943 MHz ... 2000 MHz		40 dB	min.	30	dB
<b>VSWR within PB</b>		2,3 : 1	max.	2,5 : 1	
<b>Input power level within PB</b>		-	max.	17	dBm
<b>Operating temperature range</b>	OTR	-		- 40 °C ... + 85	°C
<b>Storage temperature range</b>		-		- 40 °C ... + 85	°C
<b>Temperature coefficient of frequency</b>	$TC_f$ *	- 40 ppm/K		-	

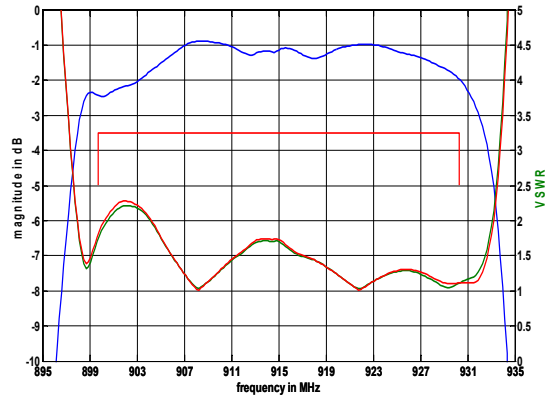
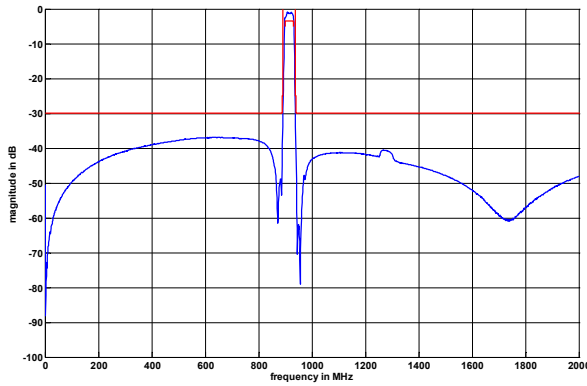
\*)  $\Delta f_c(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_A) \times f_{CTA}(\text{MHz})$

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

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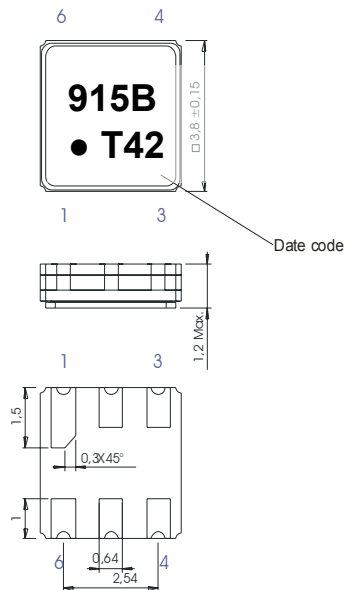
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**Filter characteristic**



**Construction and pin connection**

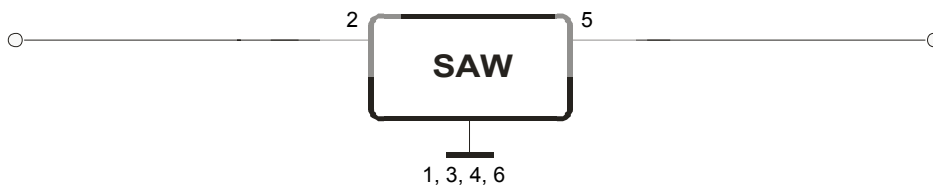
(All dimensions in mm)



- 1 Ground
- 2 Input
- 3 Ground
- 4 Ground
- 5 Output
- 6 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 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;

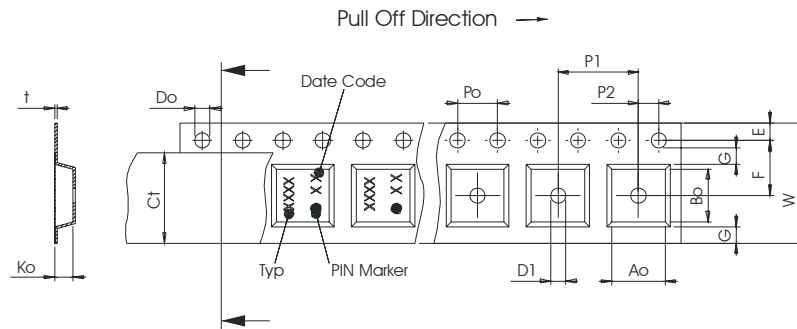
**Packing**

Tape & Reel: IEC 286 – 3, with 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: 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

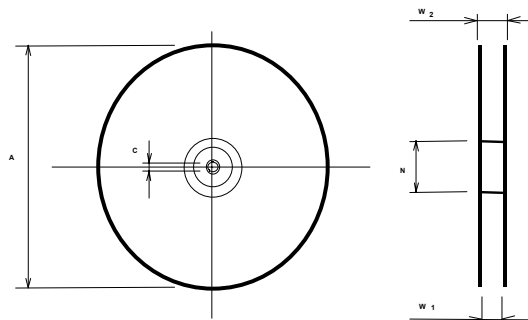
**Tape (all dimensions in mm)**

- 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.

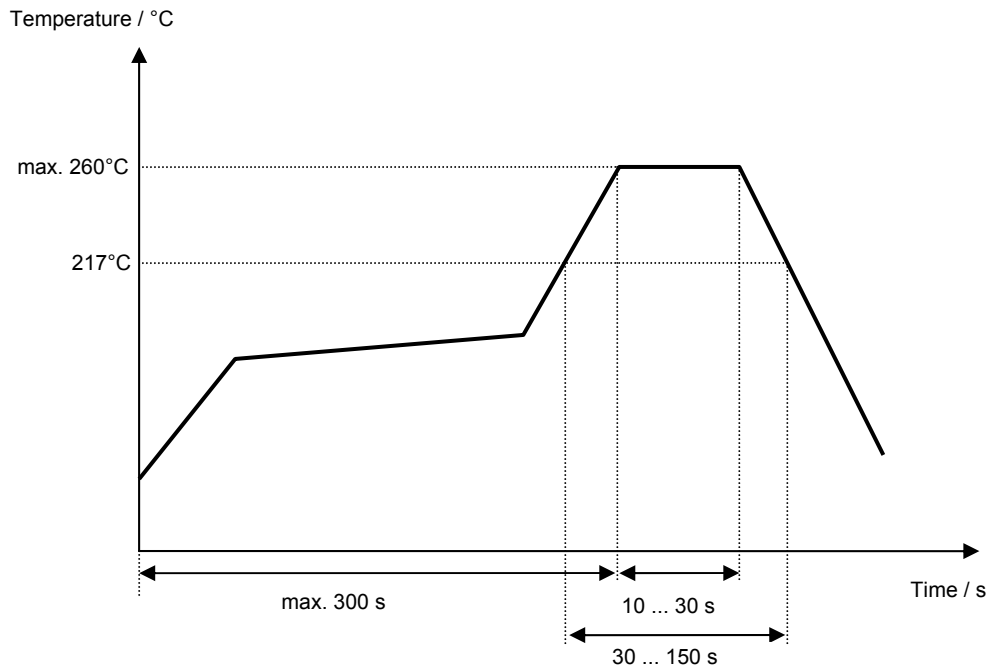
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**Air reflow temperature conditions**

<b>Conditions</b>	<b>Exposure</b>
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**



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**VI TELEFILTER****Filter specification****TFS 915B****5/5****History**

<b>Version</b>	<b>Reason of Changes</b>	<b>Name</b>	<b>Date</b>
1.0	- Generation of development specification	Roizengaft	29.01.2004
1.1	- Change of absolute attenuation and operating temperature range	Roizengaft	02.02.2004
1.2	- Typical values added	Springfeldt	08.03.2004
1.3	- Change stability characteristics and air reflow temperature conditions - Add latest version of packing information	Strehl	21.10.2005
1.4	- Change filter characteristic	Noack	13.07.2006

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