

Microchip**Filter specification****TFS 915A****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 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		a_e	2,5 dB	max.	2,9	dB
Nominal frequency		f_N	-		915	MHz
Passband		PB	-	$f_N \pm$	13	MHz
Pass band ripple			1,0 dB	max.	1,5	dB
Absolute attenuation		a_{abs}				
0,3 MHz ... 790 MHz			52 dB	min.	50	dB
790 MHz ... 860 MHz			46 dB	min.	40	dB
970 MHz ... 1040 MHz			39 dB	min.	30	dB
1040 MHz ... 1250 MHz			46 dB	min.	45	dB
1500 MHz ... 2000 MHz			39 dB	min.	30	dB
Group delay		at f_N	55 ns	max.	65	ns
Group delay ripple within PB			25 ns	max.	35	ns
Input power level			-	max.	10	dBm
Operating temperature range		OTR	-	- 10 °C ... + 60 °C		
Storage temperature range			-	- 40 °C ... + 85 °C		
Temperature coefficient of frequency		TC_f **	- 40 ppm/K	-		

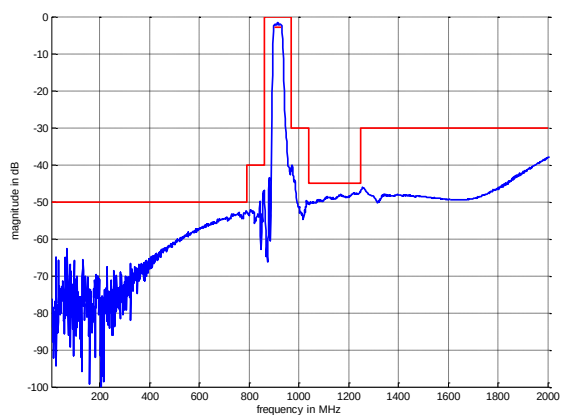
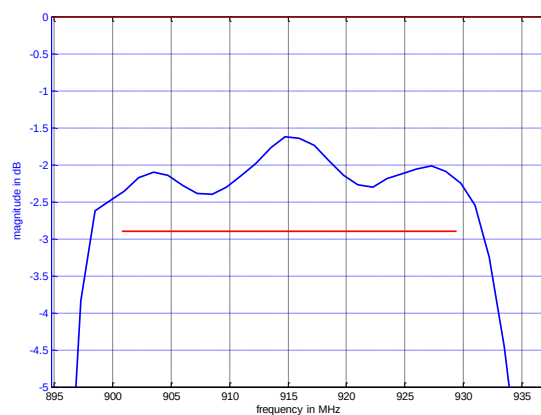
*) at modulated CDMA

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

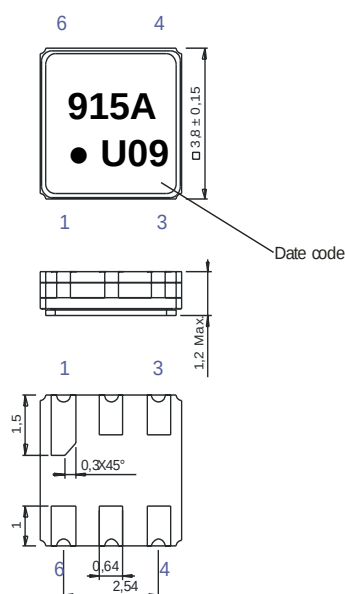
Generated:**Checked / Approved:**

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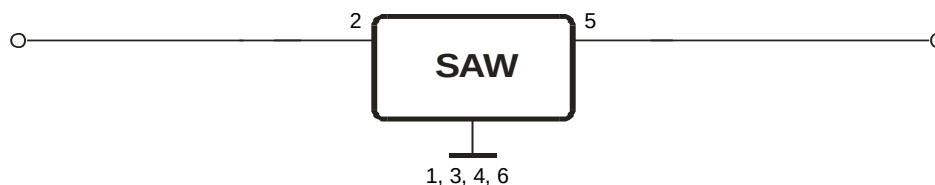
Filter characteristic**Construction and pin connection**

(All dimensions in mm)



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

Date code:	Year + week
U	2006
V	2007
W	2008
...	

50 Ω Test circuit**Microchip Frequency Technology GmbH****Potsdamer Straße 18****D 14 513 TELTOW / Germany****Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30**

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Microchip**Filter specification****TFS 915A****3/5****Stability characteristics, reliability**

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;

This filter is RoHS compliant (2002/95/EG, 2005/618/EG)

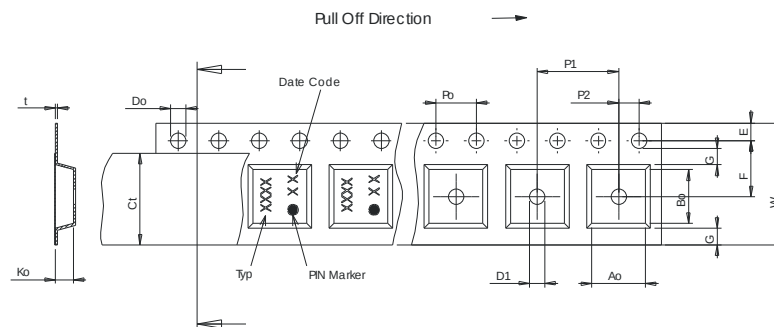
Packing

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;

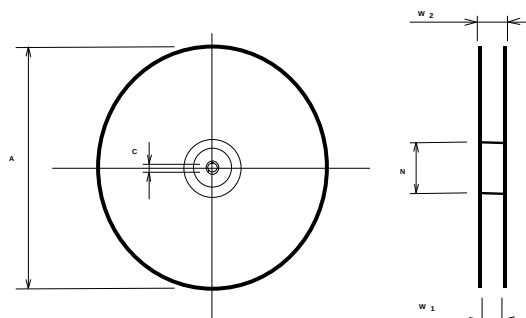
max. pieces of filters per reel:	3000
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

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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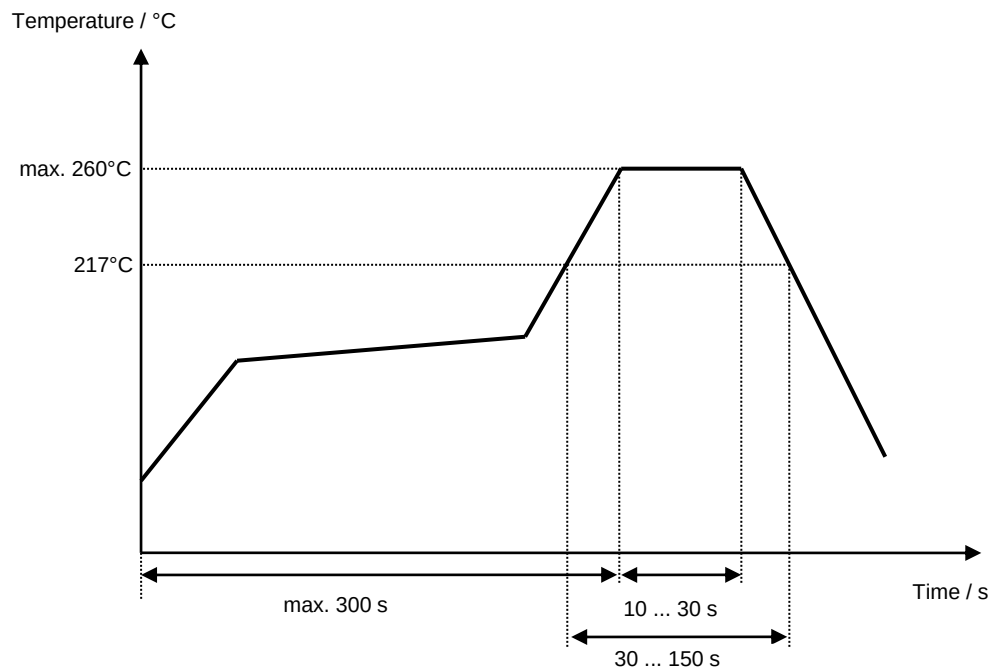
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Air reflow temperature conditions

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

Microchip**Filter specification****TFS 915A****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	Roizengaft	14.01.2004
1.1	- Add group delay and group delay ripple - Add typical values air reflow profile	Springfeldt	30.03.2004
1.2	- Changed group delay and group delay ripple	Springfeldt	12.05.2004
1.3	- Add filter characteristic and change stability characteristics - Generation of filter specification	Strehl	02.03.2006

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