Measurement condition

Ambient temperature: 23 °C
Input power level: 0 dBm
Terminating impedance:
Input: 150 Ω
Output: 150 Ω

Characteristics

Remark:
The nominal frequency f_N is fixed at 307.20 MHz. The insertion loss a_e is defined as loss value determined at f_N. Reference level for the relative attenuation a_{rel} of the TFS 307 is the insertion loss a_e. The centre frequency f_c is the arithmetic mean value of the upper and lower frequencies at the dB filter attenuation level relative to the insertion loss a_e. All specified data are met within the operating temperature range.

D a t a		**typ. value**		**tolerance / limit**		
Insertion loss (reference level)	a_e	2.14	dB	max.	3.5	dB
Nominal frequency	f_N	-			307.20	MHz
Centre frequency	f_C	307.20	MHz			
Bandwidth	BW					
3 dB		11.12	MHz		-	
Relative attenuation	a_{rel}					
@ 76.80 MHz		54	dB	min.	50	dB
@ 153.60 MHz		60	dB	min.	50	dB
@ 230.40 MHz		62	dB	min.	48	dB
@ 384.00 MHz		59	dB	min.	47	dB
@ 460.80 MHz		51	dB	min.	48	dB
Operating temperature range	OTR	-		-40 °C ... +80°C		
Storage temperature range		-		-45 °C ... +85°C		
Temperature coefficient of frequency	TC_f *	-72	ppm/k			

*) $\Delta f(Hz) = TC_f(ppm/K) \times (T-T_0) \times f_{T0}(MHz)$. Material: LiNbO3_64° black, so in principle pyrofree.

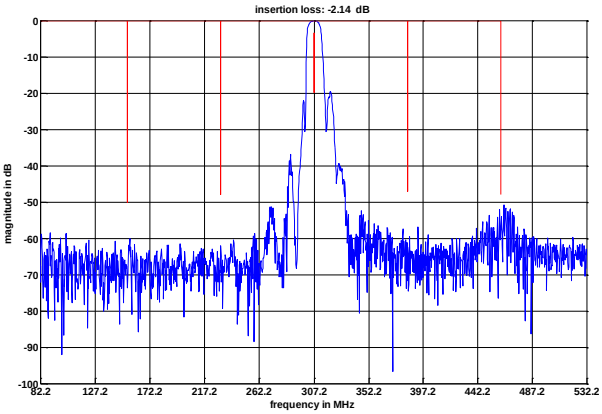
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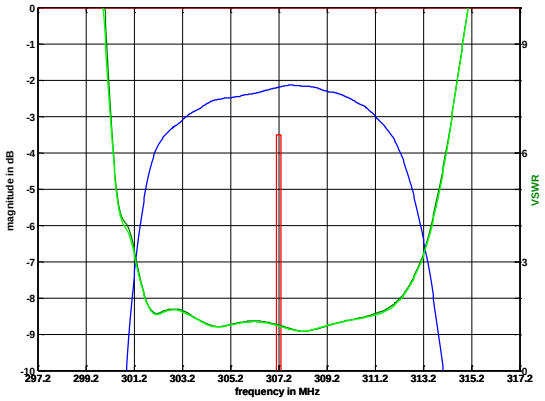
Checked / Approved:

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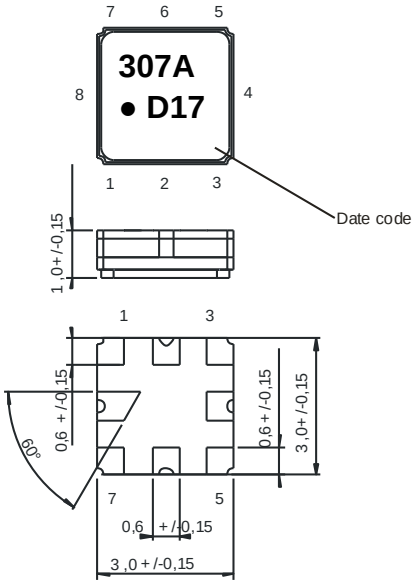
Filter characteristic





Construction and pin connection

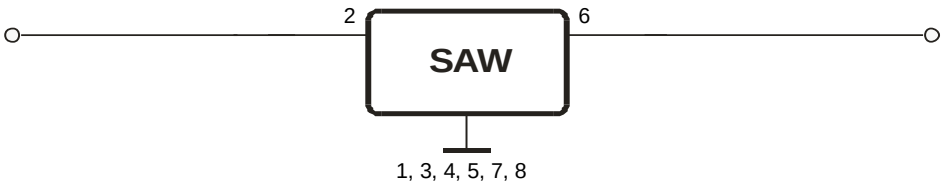
(All dimensions in mm)



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

Date code:	Year + week
D	2013
E	2014
F	2015
...	

150 Ω Test circuit



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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: three times 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)

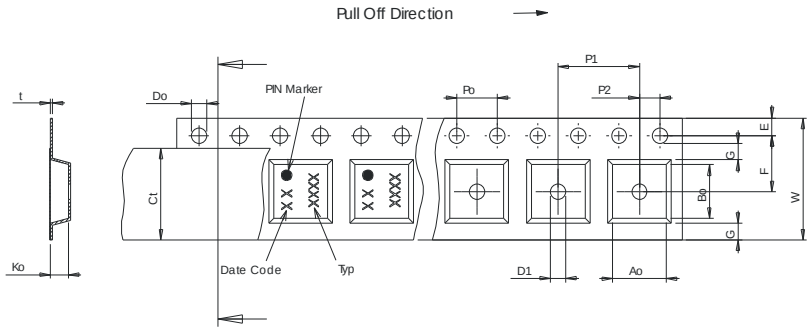
Packing

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

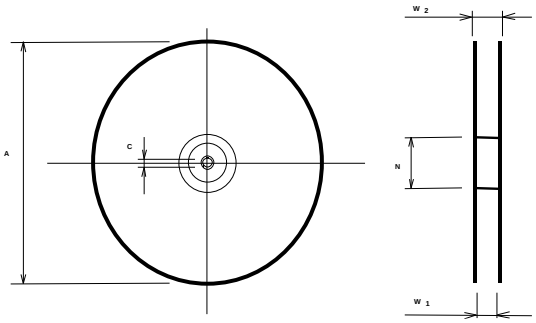
Tape (all dimensions in mm)

W	:	8,00	± 0,3
Po	:	4,00	± 0,1
Do	:	1,50	+0,1/-0
E	:	1,75	± 0,1
F	:	3,50	± 0,05
G(min)	:	0,75	
P2	:	2,00	± 0,05
P1	:	4,00	± 0,1
D1(min)	:	1,50	
Ao	:	3,25	± 0,1
Bo	:	3,25	± 0,1
Ct	:	5,5	± 0,1



Reel (all dimensions in mm)

A	:	330	
W1	:	8,4	+1,5/-0
W2(max)	:	14,4	
N(min)	:	50	
C	:	13,0	+0,5/-0,2



The minimum bending radius is 45 mm.

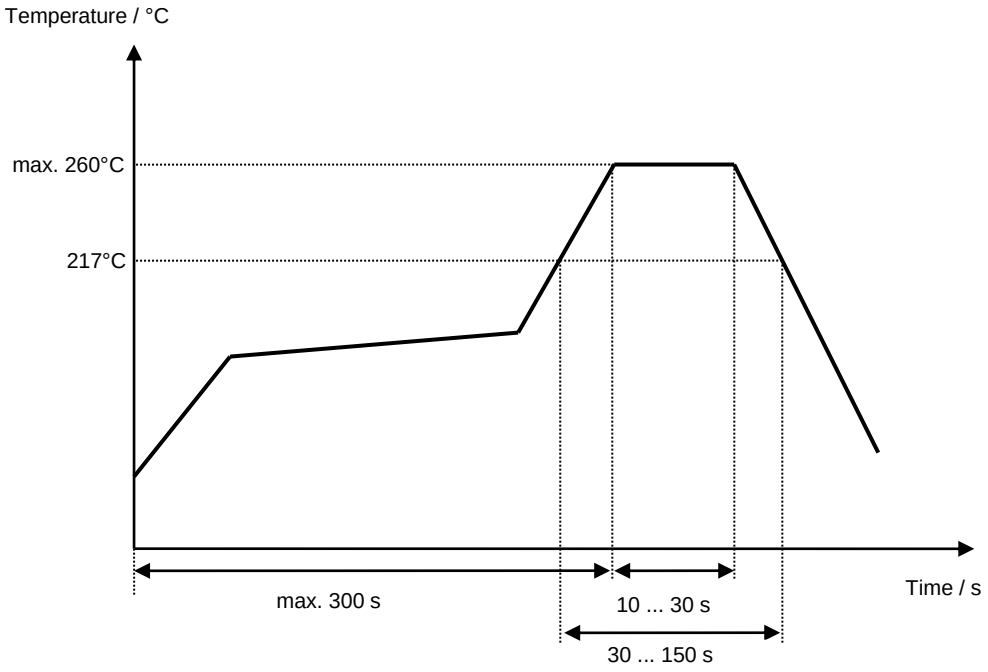
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Air reflow temperature conditions

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



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History

Version	Reason of Changes	Name	Date
1.0	Generation of filter specification	S.Springfeldt	04.08.2009
2.0	Changed pull off direction from reel	Schönbein	29.05.2012
2.1	Remark on pyrofree material added to data table	Schönbein	25.04.2013

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