

VI TELEFILTER

Filter specification

TFS 611A

1/5

Measurement condition

Ambient temperature:	25	°C
Input power level:	0	dBm
Terminating impedance:		
Input:	75	Ω
Output:	75	Ω

Characteristics

Remark:

Reference level for the relative attenuation a_{rel} of the TFS611A is the minimum 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 611MHz without tolerance or limit. The values of relative attenuation a_{rel} are guaranteed in 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	4,3	dB	max.	5,5	dB
Nominal frequency	f_N	-			611	MHz
Passband		9,8		f_N	± 3	MHz
Bandwidth 40,0 dB	BW	15,0	MHz	max.	20	MHz
Relative attenuation	a_{rel}					
$f_N - 600,0$ MHz ... $f_N - 14,0$ MHz		38	dB	min.	35	dB
$f_N - 14,0$ MHz ... $f_N - 10,0$ MHz		45	dB	min.	40	dB
$f_N - 10,0$ MHz ... $f_N - 7,75$ MHz		25	dB	min.	20	dB
$f_N + 5,75$ MHz ... $f_N + 9,0$ MHz		16	dB	min.	6	dB
$f_N + 9,0$ MHz ... $f_N + 49,0$ MHz		50	dB	min.	40	dB
$f_N + 49,0$ MHz ... $f_N + 639,0$ MHz		44	dB	min.	40	dB
VSWR		2,2:1		max.	2,5:1	
Input power level				max.	15	dBm
Operating temperature range	OTR	-			+ 5 °C ... + 40 °C	
Storage temperature range		-			- 40 °C ... + 85 °C	
Temperature coefficient of frequency	TC_f *	-33	ppm/K		-	

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

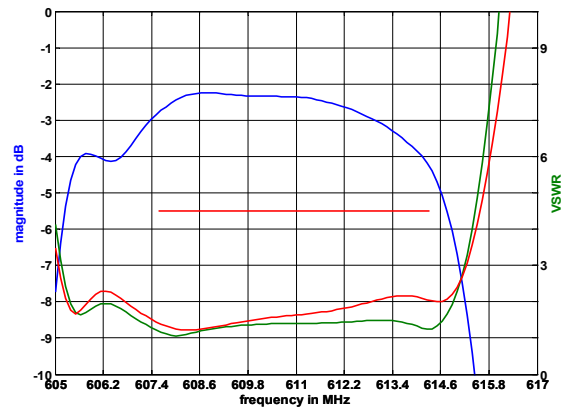
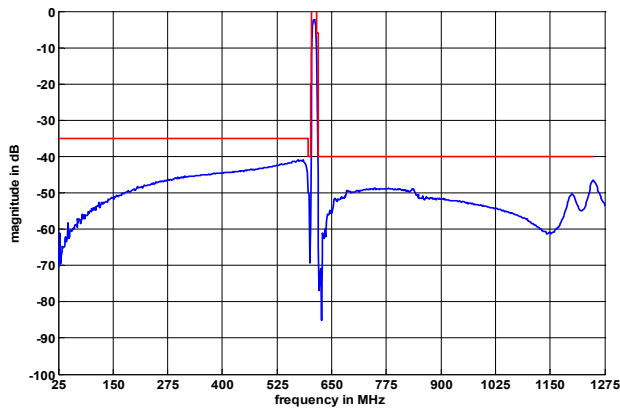
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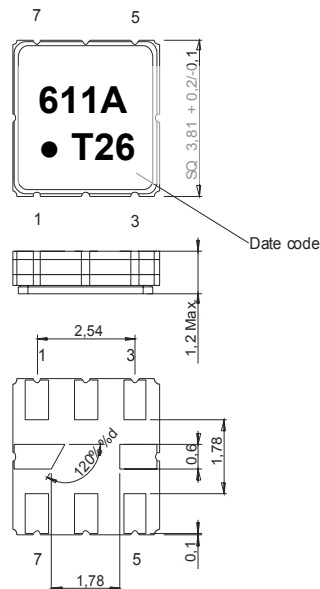
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Filter characteristic



Construction and pin connection

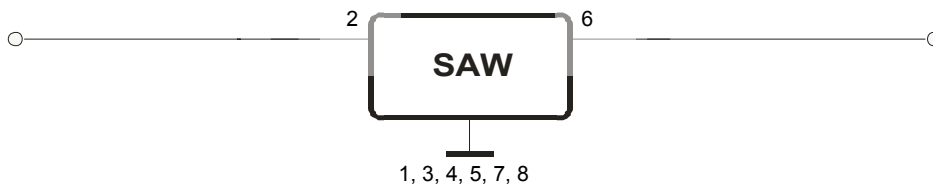
(All dimensions in mm)



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

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

75 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;

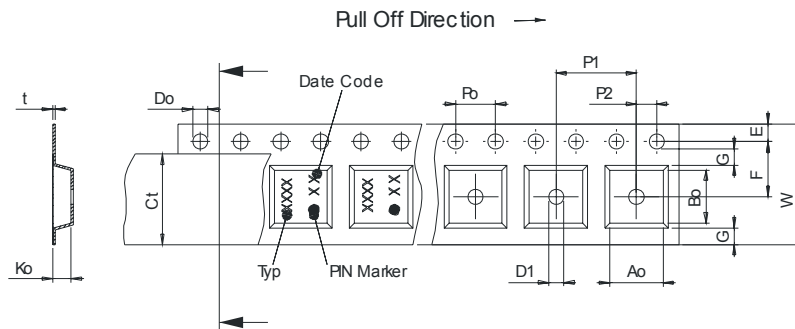
Packing

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

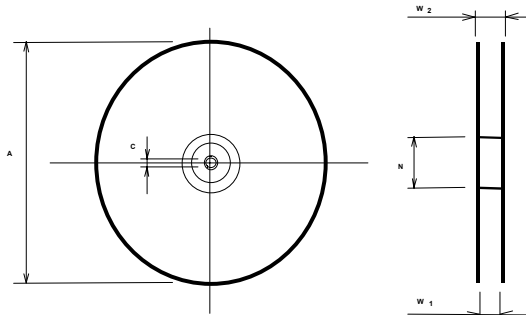
Tape (all dimensions in mm)

- 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

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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VI TELEFILTER**Filter specification****TFS 611A****5/5****History**

Version	Reason of Changes	Name	Date
1.0	Generation of development specification	Pfeiffer	19.08.2003
1.1	Change passband Add additional stop band values Change package to 3,8*3,8 mm Change packing to support the new package	Dr. Wall	28.08.2003
1.2	Change insertion loss to 5,5 dB Change passband Add VSWR Add input power level Change attenuation value	Roizengaft	18.02.2004
1.3	Add termination impedance of 75 Ω	Dr. Wall	12.03.2004
1.4	Add typical values and filter characteristic Generation of filter specification	Strehl	30.06.2005

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