

VI TELEFILTER

Filter specification

TFS 881D

1/5

Measurement condition

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Terminating impedance:
 Input: 50 Ω
 Output: 48 Ω || -2,5 pF

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 881,5 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.

D a t a		typ. value		tolerance / limit	
Insertion loss		a_e	2,8 dB	max.	3,5 dB
Insertion loss in PB2			1,9 dB	max.	2,8 dB
Nominal frequency		f_N	-		881,5 MHz
Passband		PB	-	$f_N \pm$	12,5 MHz
Pass band ripple			0,9 dB	max.	1,5 dB
Passband 2		PB2	-	$f_N \pm$	7,5 MHz
Pass band ripple in PB2			0,4 dB	max.	1,2 dB
Absolute attenuation		a_{abs}			
0,3 MHz	...	824 MHz	48 dB	min.	35 dB
824 MHz	...	849 MHz	40 dB	min.	35 dB
1050 MHz	...	1080 MHz	48 dB	min.	45 dB
1080 MHz	...	2600 MHz	37 dB	min.	35 dB
Input return loss			15 dB	min.	10 dB
Input power level			-	max.	15 dBm
Operating temperature range		OTR	-	- 20 °C ... + 70 °C	
Storage temperature range			-	- 40 °C ... + 85 °C	
Temperature coefficient of frequency		TC_f *	-42 ppm/K	-	

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

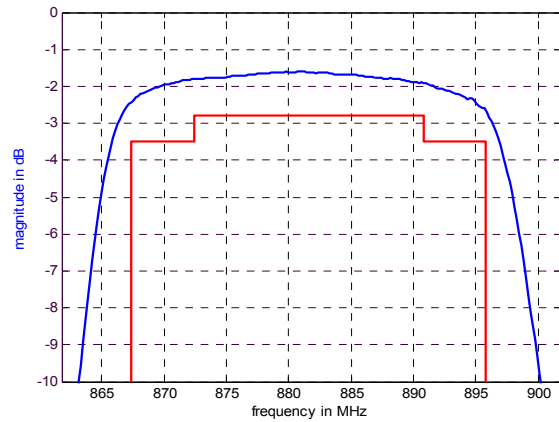
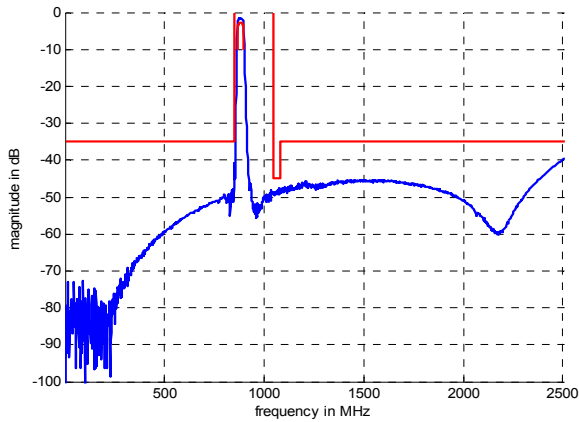
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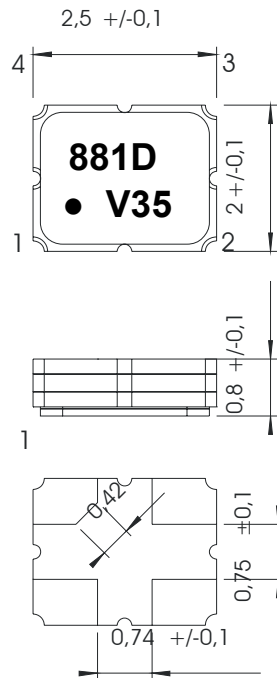
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Filter characteristic



Construction and pin connection

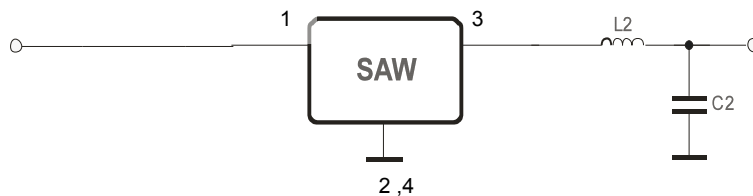
(All dimensions in mm)



- 1 Input
- 2 Ground
- 3 Output
- 4 Ground

Date code: Year + week
 V 2007
 W 2008
 X 2009
 ...

50 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: 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)

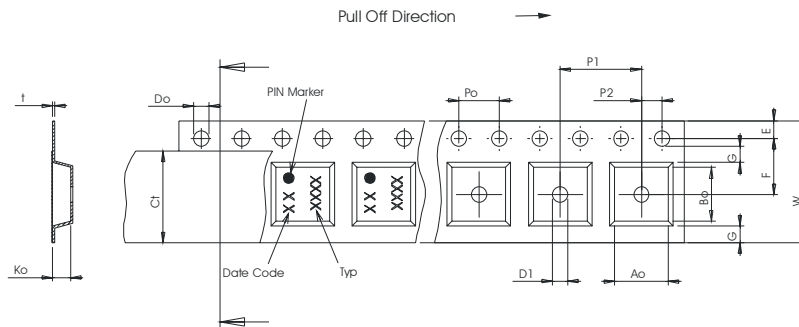
Packing

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:	9000
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

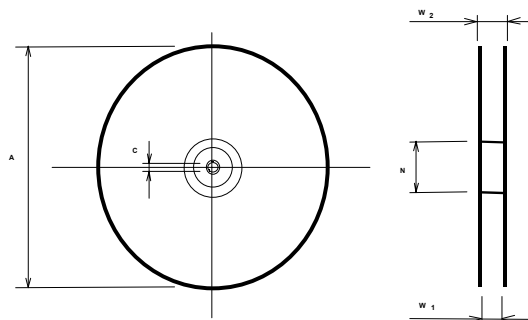
Tape (all dimensions in mm)

- 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) : 1,00
- Ao : 2,25 ± 0,1
- Bo : 2,80 ± 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.

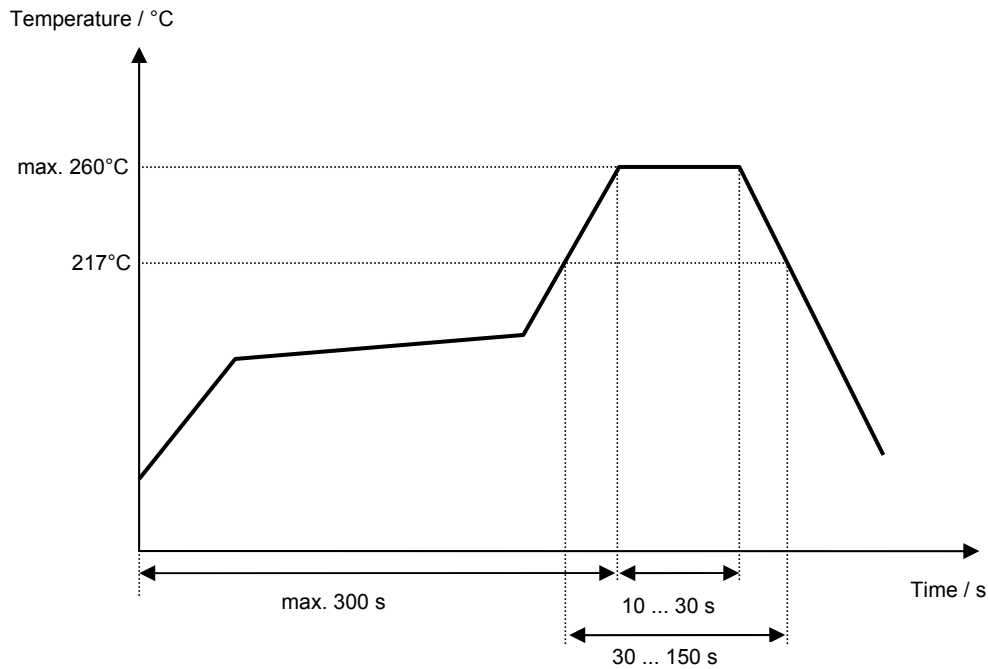
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Air reflow temperature conditions

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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VI TELEFILTER**Filter specification****TFS 881D****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	Strehl	26.01.2006
1.1	- Add pass band ripple, PB2 and insertion loss in PB2	Strehl	17.07.2006
1.2	- Add typ. value and filter characteristic - Generation of filter specification	Strehl	20.11.2006
1.3	- change power limit to 15 dBm over life time without any restrictions	Steiner	21.12.2006
1.4	- package drawing updated	Steiner	22.12.2006
1.5	- Change construction	Strehl	10.04.2007
1.6	- Change terminating impedance and test circuit	Noack	03.05.2007
1.7	- Change packing	Strehl	27.08.2007