

VI TELEFILTER**Filter specification****TFS 550****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 550 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	1,6	dB	max.	3,0	dB
Nominal frequency	f_N	-			550,0	MHz
Passband	PB	-		$f_N \pm$	12,0	MHz
Bandwidth	BW					
1 dB		34,7	MHz	min.	24,0	MHz
Absolute attenuation	a_{abs}					
0,3 MHz ... 475 MHz		55	dB	min.	40	dB
475 MHz ... 520 MHz		16	dB	min.	10	dB
580 MHz ... 630 MHz		18	dB	min.	10	dB
630 MHz ... 850 MHz		49	dB	min.	40	dB
850 MHz ... 1000 MHz		61	dB	min.	50	dB
IP3				min.	+30	dBm
Input power level		-		max.	10	dBm
Operating temperature range	OTR	-			- 45 °C ... + 85 °C	
Storage temperature range		-			- 45 °C ... + 85 °C	
Temperature coefficient of frequency	TC_f^*	-76	ppm/K		-	

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

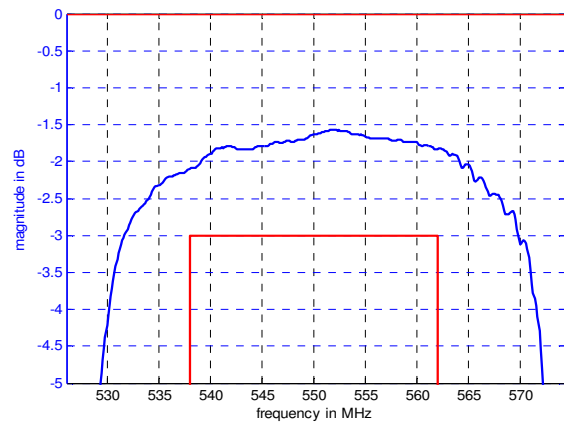
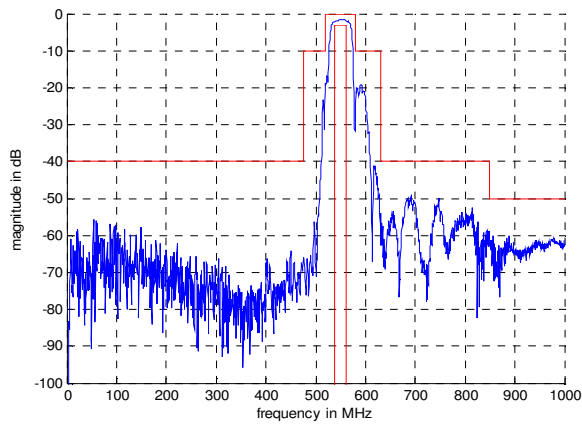
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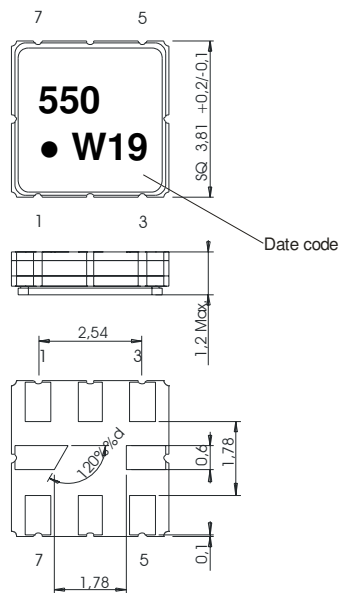
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Filter characteristic



Construction and pin connection

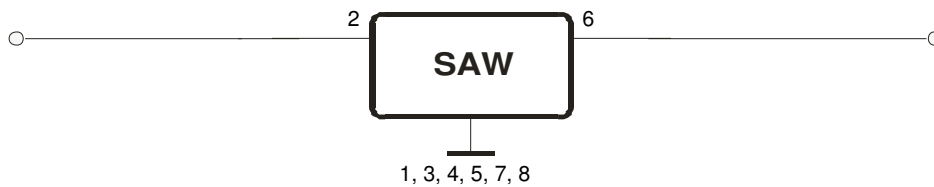
(All dimensions in mm)



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

Date code: Year + week
 W 2008
 X 2009
 A 2010
 ...

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: three times max.;
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

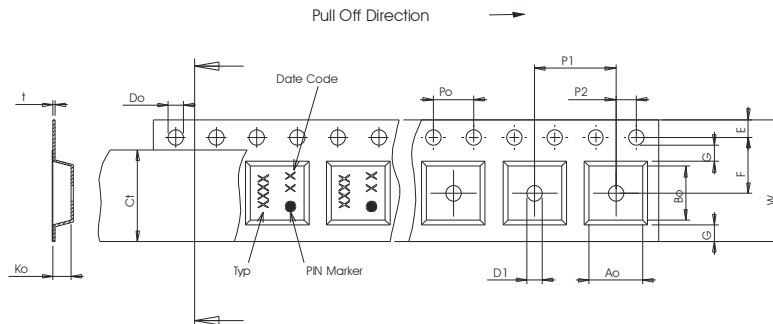
This filter is RoHS compliant (2002/95/EG, 2005/618/EG)

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 |

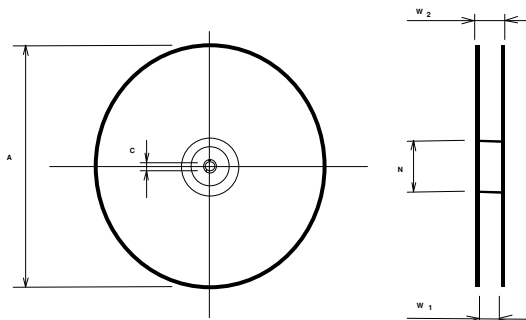
Tape (all dimensions in mm)

- W : 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) : 13,4
- N(min) : 50
- C : 13,0 +0,5/-0,2



The minimum bending radius is 45 mm.

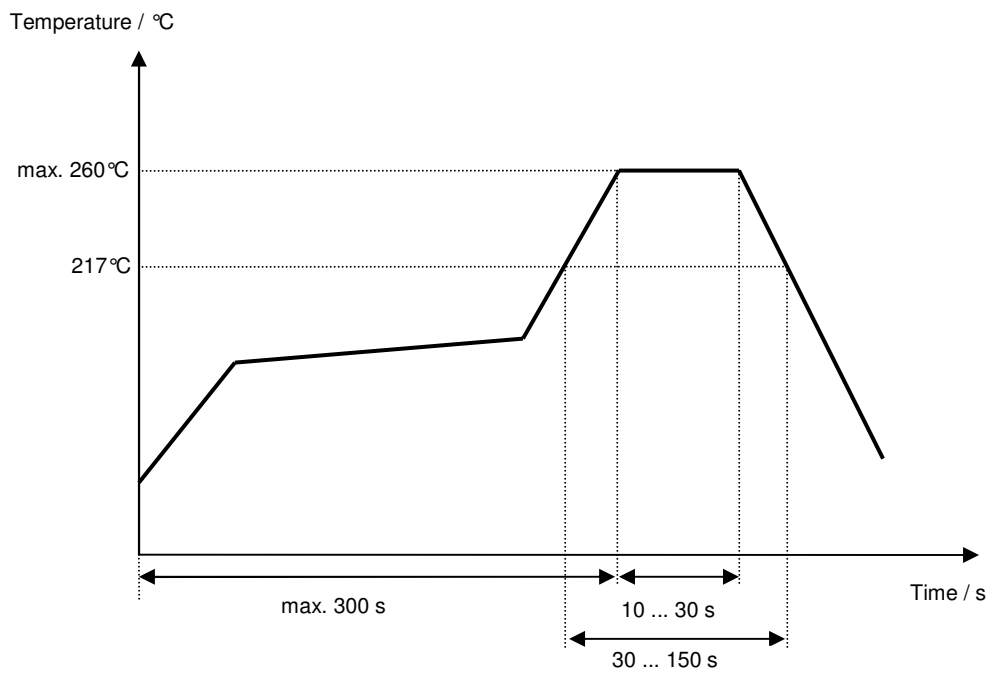
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Air reflow temperature conditions

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



VI TELEFILTER**Filter specification****TFS 550****5/5****History**

Version	Reason of Changes	Name	Date
1.0	Generation of development specification	Strehl	15.01.2007
1.1	Changing Data section according to customer requirement	Martens	28.03.2007
1.2	Change absolute attenuation	Strehl	04.04.2007
1.3	Change attenuation	S. Channaa	04.03.2008
1.4	Change attenuation, add typical values Add filter characteristic, generation of filter specification	S. Channaa	09.05.2008