

VI TELEFILTER

Filter specification

TFS 620

1/5

Measurement condition

Ambient temperature:	23	°C
Input power level:	0	dBm
Terminating impedance: *		
Input:	300 Ω	-4.9 pF
Output:	200 Ω	-6.7 pF

Characteristics

Remark:

The reference level for the relative attenuation a_{rel} of the TFS 620 is the minimum of the pass band attenuation. This value is defined as the insertion loss a_e . The centre frequency f_c is the arithmetic mean value of the upper and lower frequencies at the 3 dB filter attenuation level relative to the insertion loss a_e . The nominal frequency f_N is fixed at 620 MHz without any tolerance. The values of relative attenuation a_{rel} 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 (reference level)	a_e	12,7	dB	max.	14	dB
Nominal frequency (at 70°C)	f_N	-			620	MHz
Centre frequency (at ambient temperature)	f_c	620,6	MHz		-	
Passband		31,3	MHz	min.	$f_N \pm 15$	MHz
Pass band ripple		0,5	dB		1	dB
Relative attenuation	a_{rel}					
f_N ...	$f_N \pm 15$ MHz	0,5	dB	max.	1	dB
f_N - 610 MHz ...	f_N - 26,6 MHz	48	dB	min.	40	dB
f_N - 26,5 MHz ...	f_N - 24 MHz	42	dB	min.	37	dB
f_N + 25,5 MHz ...	f_N + 26,5 MHz	38	dB	min.	35	dB
f_N + 26,5 MHz ...	f_N + 380 MHz	48	dB	min.	40	dB
VSWR within $f_N \pm 15$ MHz		1.7:1		max.	2:1	
Phase ripple within PB (p-p)		7	deg	max.	12	deg
Operating temperature range	OTR	-			+ 65 °C ... + 75	°C
Storage temperature range		-			- 40 °C ... + 85	°C
Temperature coefficient of frequency	TC_f	-20	ppm/K		-	

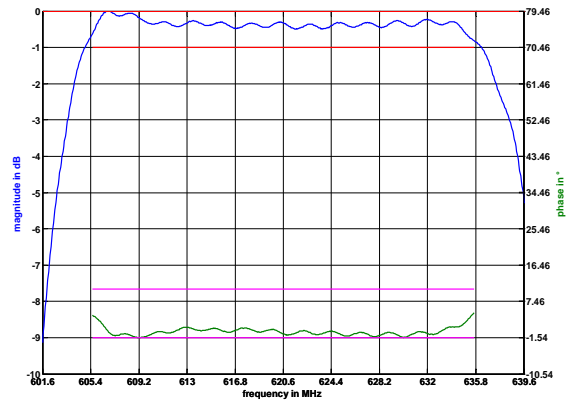
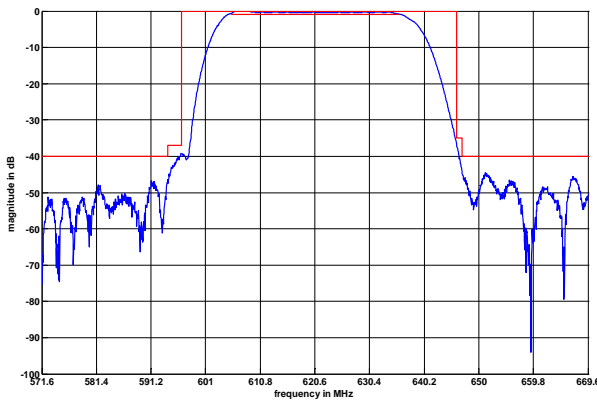
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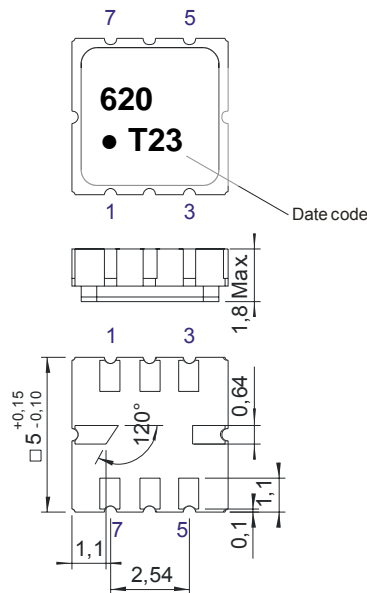
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Filter characteristic



Construction and pin connection

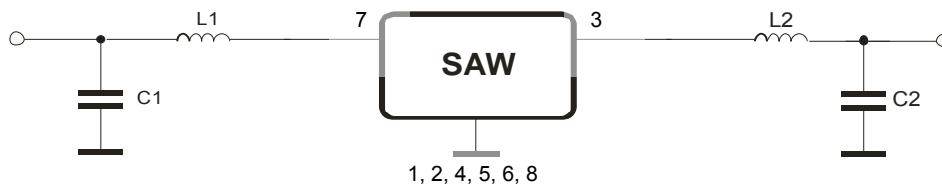
(All dimensions in mm)



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

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

50 Ohm Test circuit



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Stability characteristics

After the following tests the filter shall meet the whole specification:

1. Shock: 500g, 18 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;

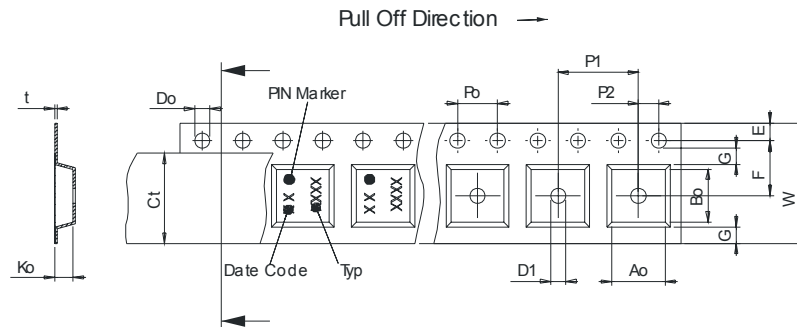
Packing

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: <MAXPIECESPERREEL>
reel of empty components at start: min. 300 mm
reel of empty components at start including leader: min. 500 mm
trailer: min. 300 mm

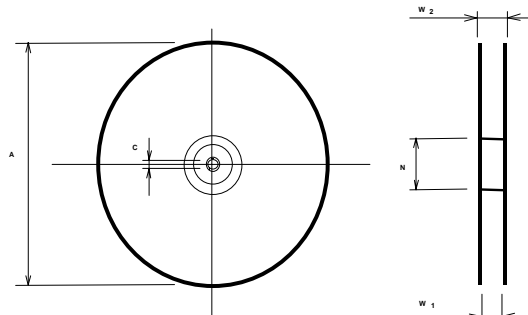
Tape (all dimensions in mm)

- 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 : 5,30 ± 0,1
- Bo : 5,30 ± 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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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 620****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	T. Martens	26.10.2004
1.1	- pinning added	Chilla	29.10.2004
1.2	- changed insertion loss	Chilla	02.11.2004
1.3	- changed pinning	Chilla	30.11.2004
1.4	- changed stopband attenuation at f_N +/- 25 MHz - changed insertion loss	Chilla	07.02.2005
1.5	- created filter specification - added termination impedances - added typical values - changed relative attenuation - added filter characteristics - added test curciut	Chilla	03.06.2005

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