

VI TELEFILTER

Filter specification

TFS 1575A

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 1575,42 MHz without tolerance or limit. 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	1,5	dB	max.	2,5	dB
		-			-	
Nominal frequency	f_N	-			1575,42	MHz
Passband	PB	-		f_N	±	1,2 MHz
Pass band ripple		0,7	dB	max.	1,0	dB
Absolute attenuation	a_{abs}					
0,3 MHz ... 1520 MHz		42	dB	min.	35	dB
1520 MHz ... 1535 MHz		39	dB	min.	30	dB
1625 MHz ... 1630 MHz		55	dB	min.	30	dB
1630 MHz ... 2400 MHz		45	dB	min.	40	dB
2400 MHz ... 3000 MHz		45	dB	min.	30	dB
3000 MHz ... 6000 MHz		22	dB	min.	10	dB
VSWR within PB		1,5	: 1		2	: 1
Operating temperature range	OTR	-			- 40 °C ... + 85 °C	
Storage temperature range		-			- 45 °C ... + 85 °C	
Temperature coefficient of frequency	TC_f *	-36	ppm/K		-	

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

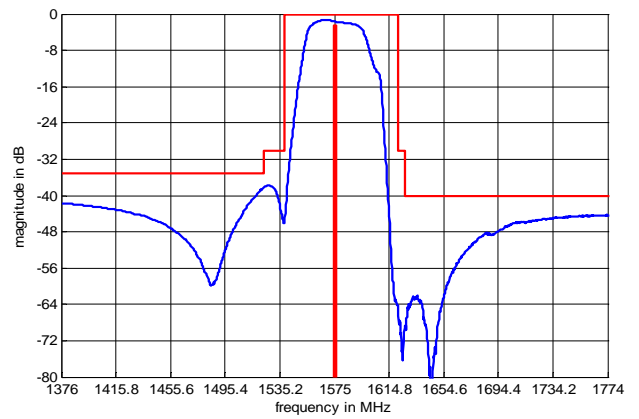
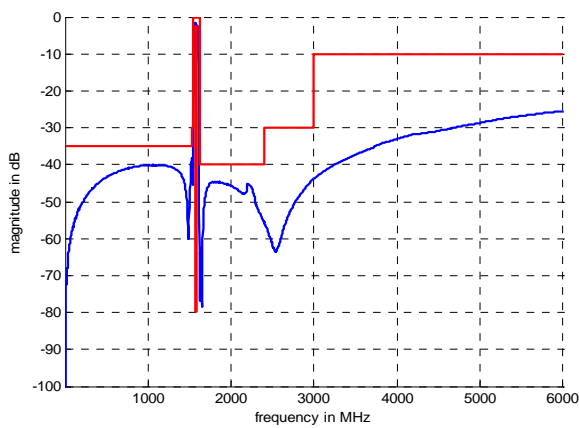
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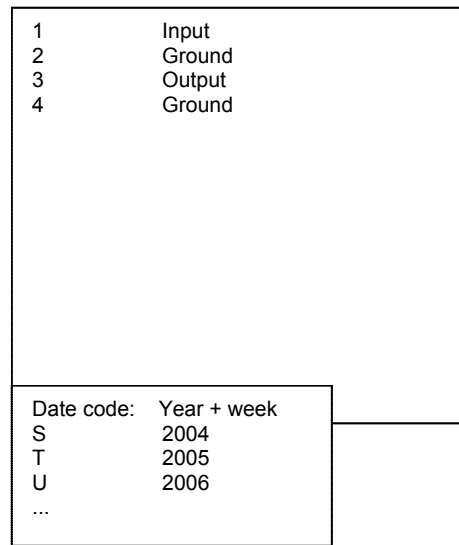
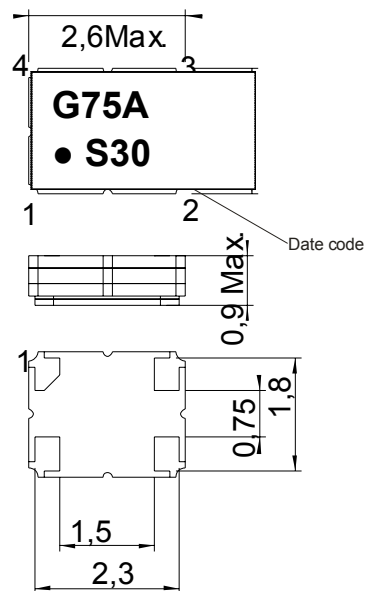
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Filter characteristic

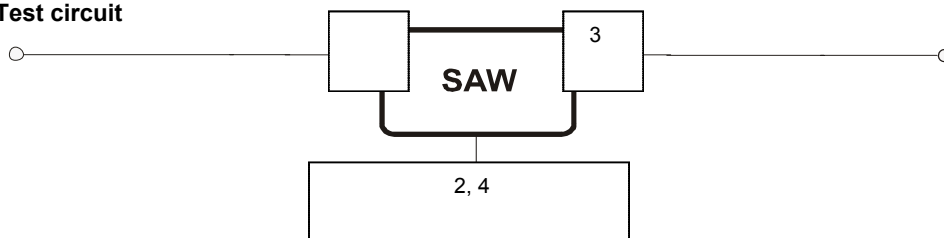


Construction and pin connection

(All dimensions in mm)



50 Ω 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;

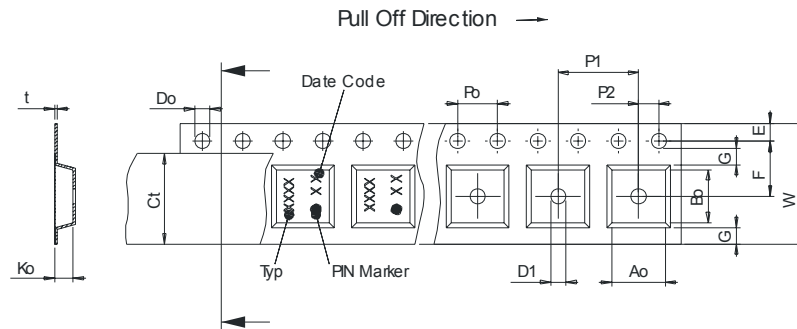
Packing

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:	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

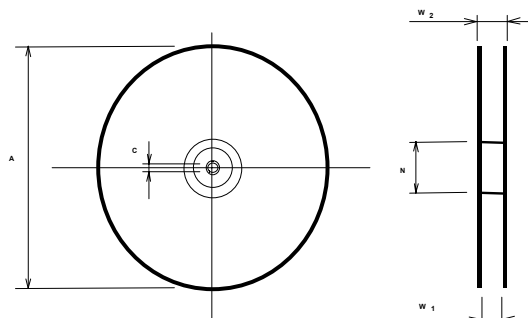
Tape (all dimensions in mm)

- W : 8,00 + 0,3/- 0,1
- Po : 4,00 ± 0,1
- Do : 1,50 ± 0,05
- E : 1,75 ± 0,1
- F : 3,50 ± 0,05
- G(min) : 0,75
- P2 : 2,00 ± 0,1
- 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

1st and 2nd air reflow profile

Name:	pre-heating periods	main-heating periods	peak temperature
Temperature:	150 °C - 170 °C	over 200 °C	255 °C ± 5 °C
Time:	60 sec. - 90 sec.	20 sec. - 25 sec.	

Chip-mount air reflow profile

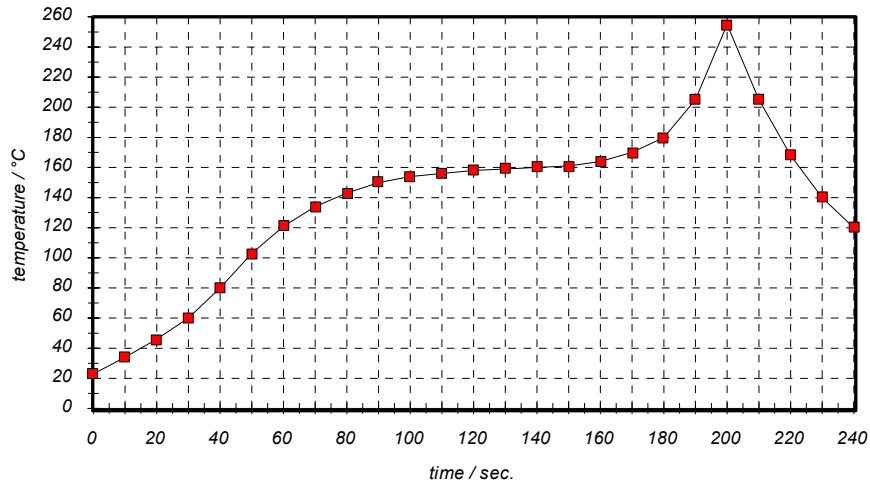


Table for temperature vs. time during the air reflow process

Tolerance of temperatures: ± 5 °C

time / sec.	temperature / °C	time / sec.	temperature / °C
0	23	140	160
10	34	150	161
20	46	160	164
30	60	170	170
40	80	180	180
50	103	190	205
60	121	195	230
70	134	200	255
80	143	205	230
90	150	210	205
100	154	215	180
110	156	220	165
120	158	230	140
130	159	240	120

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VI TELEFILTER**Filter specification****TFS 1575A****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- generation of Filter specification	S. Sabah	23.03.2004
1.1	- change construction - add test circuit - add packing	M.Springfeldt	23.07.2004

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