

**Vectron International**                      **Filter specification**                      **TFS 1575AA**                      **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 any tolerance or limit. The frequency shift of the filter in the operating temperature range is included in the production tolerance scheme.

<b>D a t a</b>		<b>typ. value</b>	<b>tolerance / limit</b>
<b>Insertion loss</b> (reference level)	$a_e$	1,5    dB	max.    2,5    dB
<b>Nominal frequency</b>	$f_N$	-	1575,42    MHz
<b>Passband</b>	PB	-	$f_N \pm 1,2$ MHz
<b>Pass band ripple</b>		0,7    dB	max.    1,0    dB
<b>Absolute attenuation</b>	$a_{abs}$		
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
<b>VSWR within PB</b>		1,5 : 1	max.    2 : 1
<b>Operating temperature range</b>	OTR	-	- 40 °C ... + 85 °C
<b>Storage temperature range</b>		-	- 45 °C ... + 85 °C
<b>Temperature coefficient of frequency</b>	$TC_f^*$	-36    ppm/K	-

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

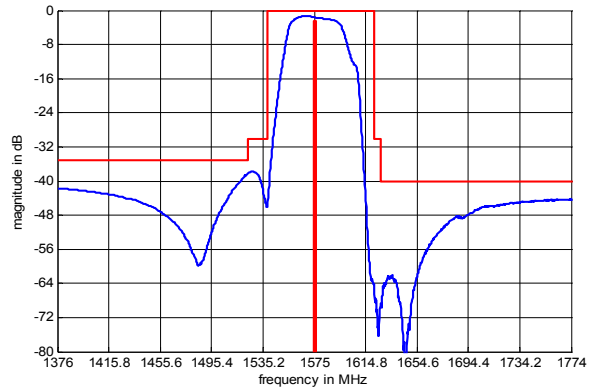
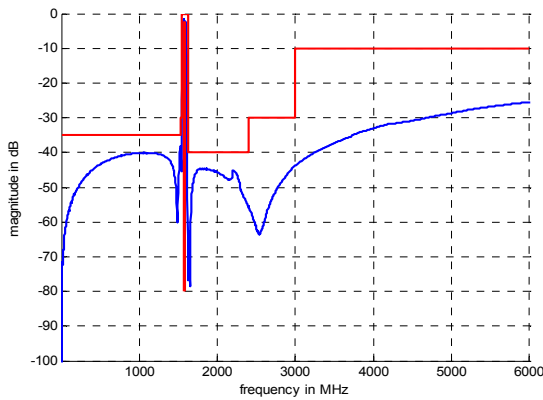
**Generated:** \_\_\_\_\_

**Checked / Approved:** \_\_\_\_\_

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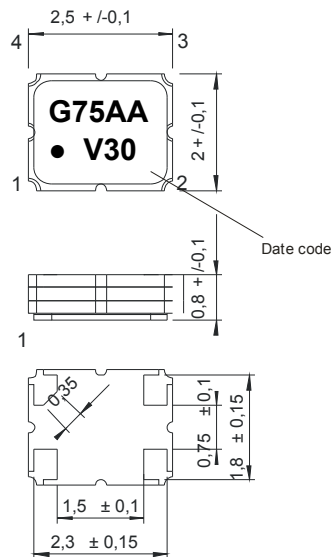
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**Filter characteristic**



**Construction and pin connection**

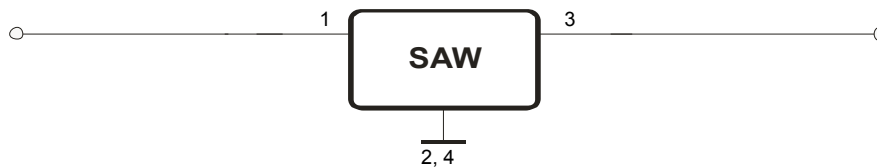
(All dimensions in mm)



- 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: 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)

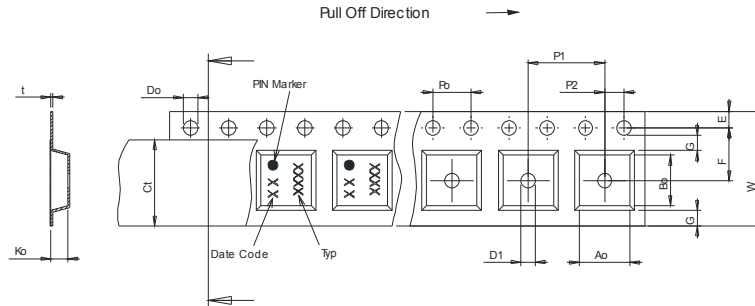
**Packing**

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 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

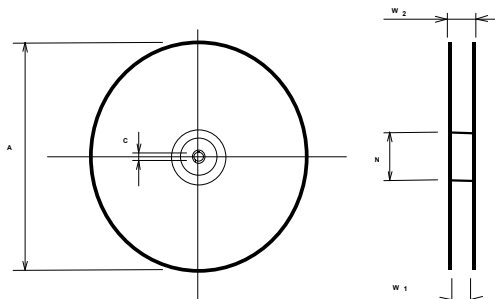
**Tape (all dimensions in mm)**

W	:8,00	+0,3/-0,1
Po	:4,00	± 0,1
Do	:1,55	± 0,05
E	:	
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.

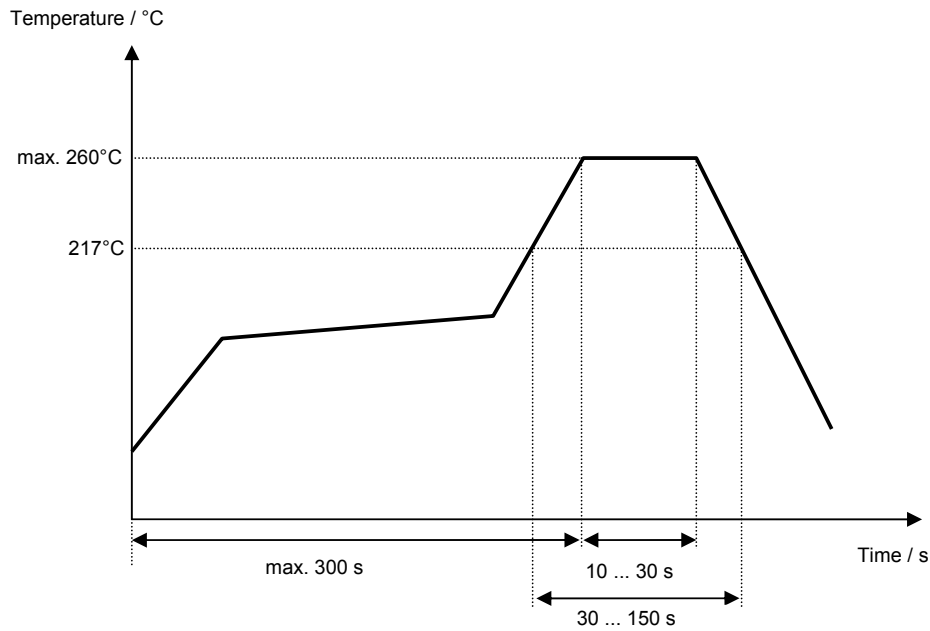
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**Air reflow temperature conditions**

<b>Conditions</b>	<b>Exposure</b>
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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**Vectron International****Filter specification****TFS 1575AA****5/5**

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**History**

<b>Version</b>	<b>Reason of Changes</b>	<b>Name</b>	<b>Date</b>
1.0	- Generation of filter specification	Noack	17.05.2011

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