

**Vectron International****Filter specification****TFS 622C****1/5****Measurement condition**

Ambient temperature:	23	°C
Input power level:	0	dBm
Terminating impedance:		
Input:	50	Ω
Output:	50	Ω

**Characteristics**

## Remark:

The reference level for the relative attenuation  $a_{rel}$  of the TFS 622C is the attenuation at nominal frequency. This value is defined as the insertion loss  $a_e$ . The nominal frequency  $f_N$  is fixed at 622.08 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.

<b>D a t a</b>		<b>typ. value</b>		<b>tolerance / limit</b>	
<b>Insertion Loss</b> (reference level)	$a_e$	2.25	dB	4.0	dB
<b>Nominal Frequency</b>	$f_N$	-		622.08	MHz
<b>Centre Frequency</b>	$f_C$	622.08	MHz		
<b>Bandwidth</b> 3 dB	BW	11	MHz	-	
<b>Relative Attenuation</b>	$a_{rel}$				
$f_N - 77.76$ MHz ... $f_N - 77.76$ MHz		67	dB	min.	60 dB
$f_N + 77.76$ MHz ... $f_N + 177.92$ MHz		64	dB	min.	60 dB
$f_N + 177.92$ MHz ... 1000.00 MHz		55	dB	min.	48 dB
<b>Input power level</b>				max.	0 dBm
<b>Operating Temperature Range</b>	OTR	-		- 25 °C ... + 85 °C	
<b>Storage Temperature Range</b>		-		- 45 °C ... + 95 °C	
<b>Temperature Coefficient of Frequency</b>	$TC_f$ *	-36	ppm/K		

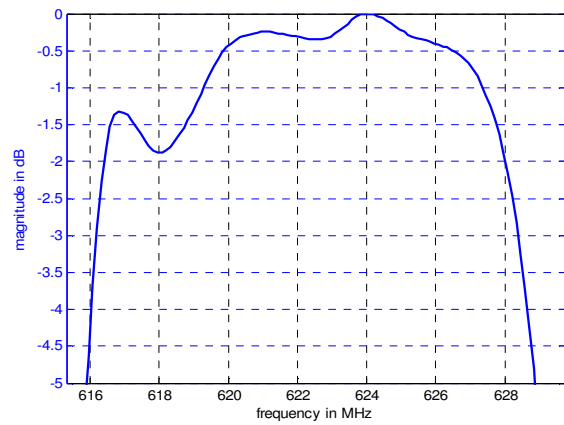
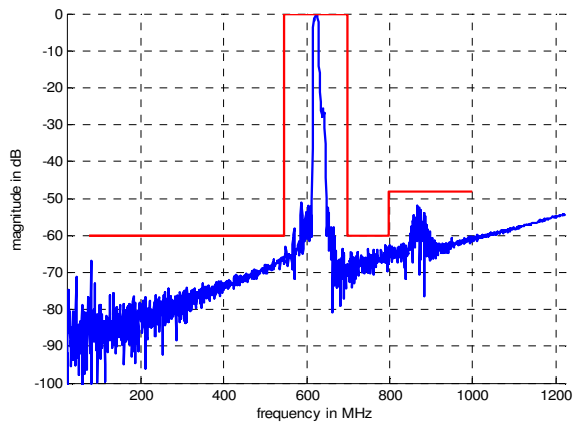
\*)  $\Delta f(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_0) \times f_{CAT}(\text{MHz})$ .

**Generated:****Checked / Approved:**

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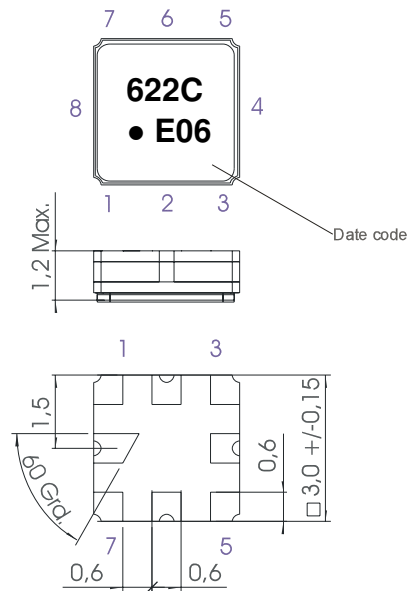
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**Filter characteristic**



**Construction and pin connection**

(All dimensions in mm)

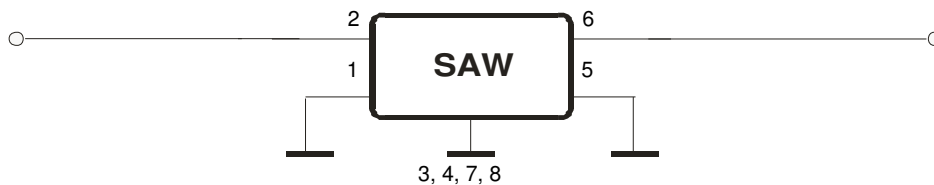


1	Ground
2	Input
3	Ground
4	Ground
5	Ground
6	Output
7	Ground
8	Ground

Date code: Year + week

E	2014
F	2015
G	2016
...	

**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 g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 68 T2 - 6
3. Change of temperature: -55 °C to 125°C / 15 min. each / 100 cycles  
DIN IEC 68 part 2 – 14 Test N
4. Resistance to solder heat (reflow): reflow possible: three times max.;  
for temperature conditions, see page 4: "Air reflow temperature conditions"

This filter is RoHS compliant (2011/65/EU)

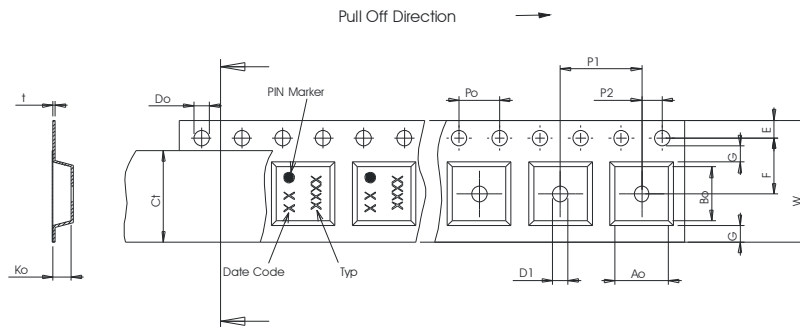
**Packing**

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

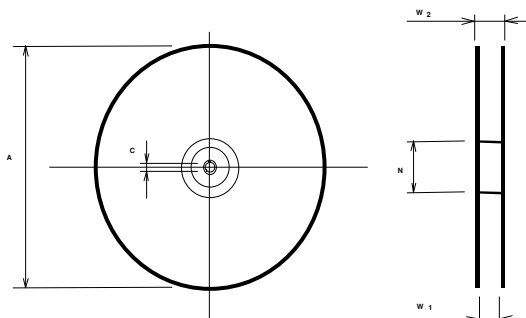
**Tape (all dimensions in mm)**

- W : 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) : 1,50
- Ao : 3,25 ± 0,1
- Bo : 3,25 ± 0,1
- Ct : 5,3 ± 0,1



**Reel (all dimensions in mm)**

- A : 180
- W1 : 8,4 +1,5/-0
- W2(max) : 14,4
- N(min) : 60
- C : 13,0 ± 0,2



The minimum bending radius is 45 mm.

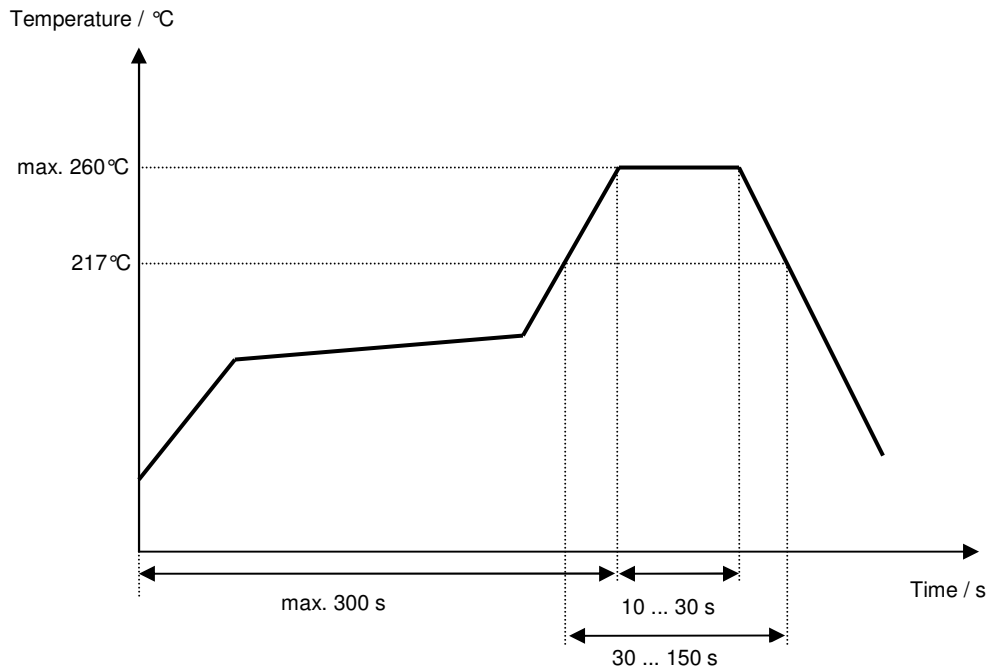
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## Air reflow temperature conditions

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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**History**

<b>Version</b>	<b>Reason of Changes</b>	<b>Name</b>	<b>Date</b>
1.0	- Generation of development specification	Strehl	03.06.2005
1.1	- Change storage temperature range Change vibration	Strehl	07.06.2005
1.2	- Added typical value and filter characteristic - change of stop band rejection from 800MHz to 1 GHz < 48dB - Generation of filter specification	Sabah	11.07.2005
1.3	- Change definition of insertion loss	Wall	17.08.2005
2.0	- Change pull off direction from reel	Schönbein	11.05.2012
2.1	- Maximum input power updated	Kortenbeutel	04.02.2014