

Vectron International**Filter specification****TFS 1080D****1/5****Measurement condition**

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

Remark:

The maximum attenuation in the passband is defined as the insertion loss a_e . The nominal frequency f_N is fixed at 1080,0 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 in PB		a_e	2,3	dB	max.	3,0 dB
Nominal frequency		f_N	-			1080,0 MHz
Passband		PB	-		$f_N \pm$	7,0 MHz
Absolute attenuation		a_{abs}				
0,3	MHz ... 1045 MHz		44	dB	min.	40 dB
1045	MHz ... 1055 MHz		37	dB	min.	30 dB
1105	MHz ... 1115 MHz		49	dB	min.	35 dB
1115	MHz ... 2000 MHz		47	dB	min.	40 dB
Group delay ripple			-			
1073	MHz ... 1075 MHz		12	ns	max.	50 ns
1075	MHz ... 1085 MHz		17	ns	max.	25 ns
1085	MHz ... 1087 MHz		25	ns	max.	50 ns
Return loss within PB			15	dB	min.	10 dB
Operating temperature range		OTR	-		- 45 °C ... + 85 °C	
Storage temperature range			-		- 55 °C ... + 105 °C	
Temperature coefficient of frequency		TC_f *	-37	ppm/K		

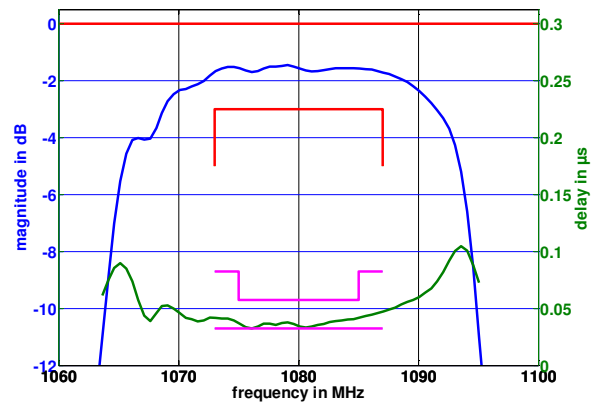
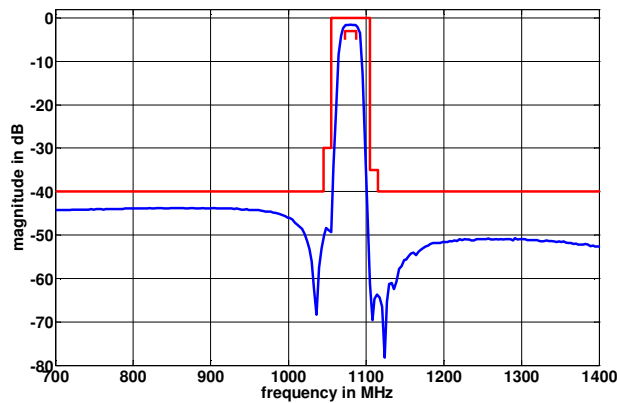
*) $\Delta f_C(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_o) \times f_{CAT}(\text{MHz})$

Generated:**Checked / Approved:**

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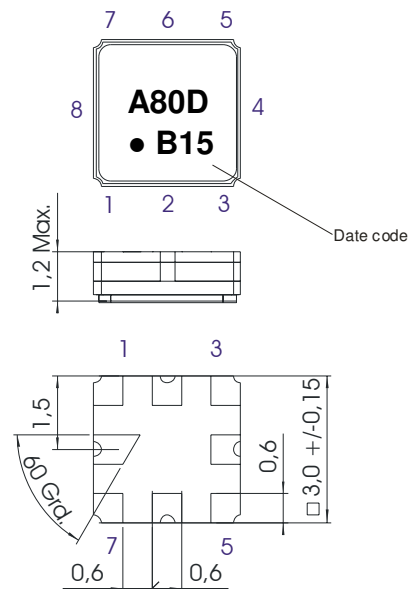
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Filter characteristic



Construction and pin connection

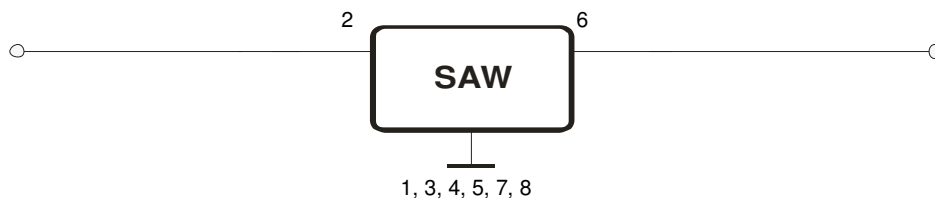
(All dimensions in mm)



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

Date code: Year + week
 A 2010
 B 2011
 C 2012
 ...

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 plane, 3 planes;
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, see page 4: "Air reflow temperature conditions"
5. ESD ANSI/ESD S20.20-1999, class 1A for HBM

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

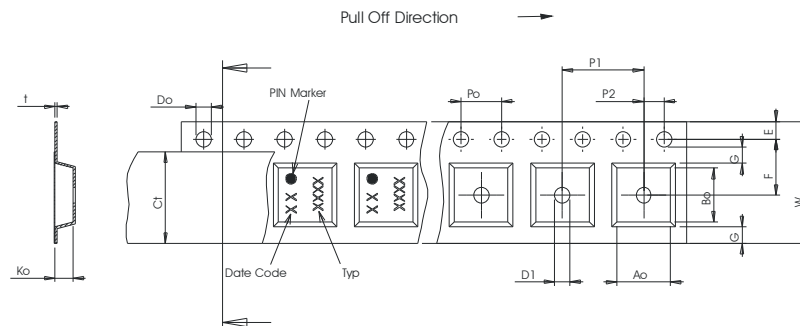
Packing

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;

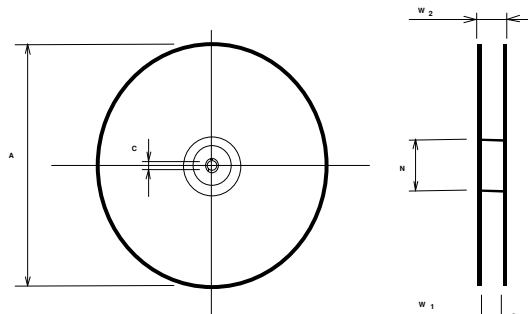
max. pieces of filters per reel:	3000
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

Tape (all dimensions in mm)

W	: 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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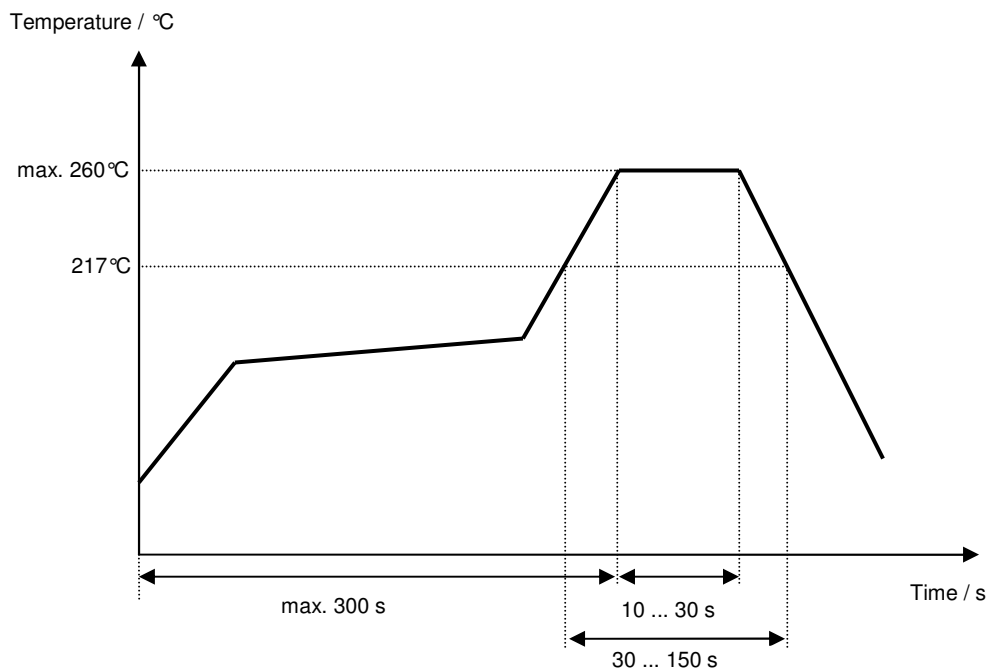
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Air reflow temperature conditions

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

Vectron International**Filter specification****TFS 1080D****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	Noack	12.07.2010
1.1	- Change from development spec to filter spec - Typical values added - Filter characteristic added	Molke	05.04.2011

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