Measurement condition

Ambient temperature T_A:	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 1191 MHz without any tolerance or limit. The values of absolute attenuation a_{abs} are guaranteed over the whole operating temperature range. The frequency shift of the filter within 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	3.4	dB	max.	4	dB
Nominal frequency				f_N	-			1191.0	MHz
Passband				PB	-		f_N ±	27.0	MHz
Passband ripple				p-p	1	dB	max.	2	dB
Absolute attenuation				a_{abs}					
0.3	MHz	…	1000.0	MHz	37	dB	min.	30	dB
1000.0	MHz	…	1130.0	MHz	19	dB	min.	10	dB
1260.0	MHz	…	1360.0	MHz	17	dB	min.	10	dB
1360.0	MHz	…	2500.0	MHz	36	dB	min.	30	dB
2500.0	MHz	…	4000.0	MHz	28	dB	min.	24	dB
4000.0	MHz	…	6000.0	MHz	12	dB	min.	8	dB
Group delay ripple within PB				GDR	5	ns	Max.	11	ns
VSWR within PB					1.6 : 1		max.	2.3 : 1	
Input power level in PB					-		max.	15	dBm
Operating temperature range				OTR	-			-40 °C ... +85 °C	
Storage temperature range					-			-55 °C ... +125 °C	
Temperature coefficient of frequency				TC_f *)	-76	ppm/K			

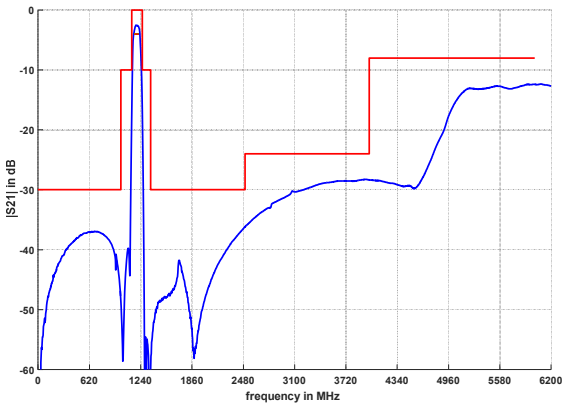
*) $\Delta f = TC_f(T - T_A)f_N$

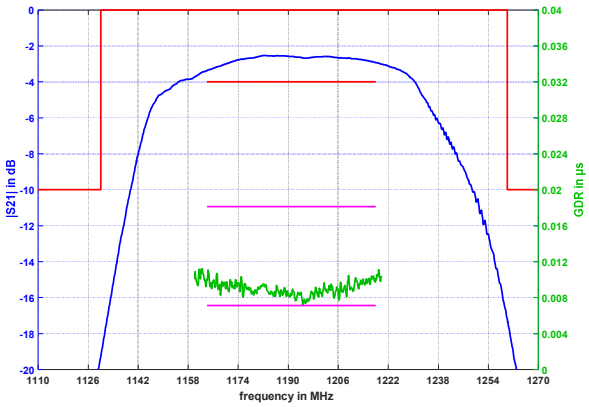
Generated:

Checked / Approved:

Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

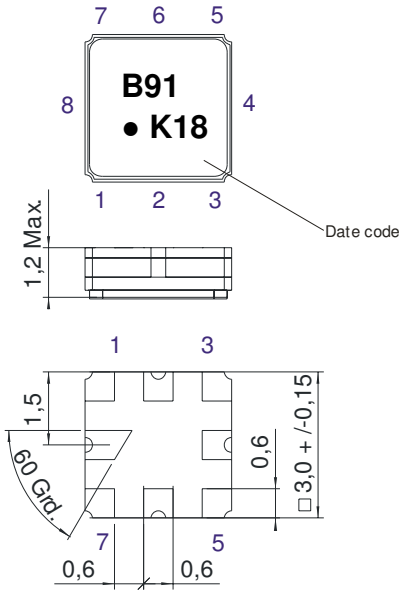
Filter characteristic





Construction and pin connection

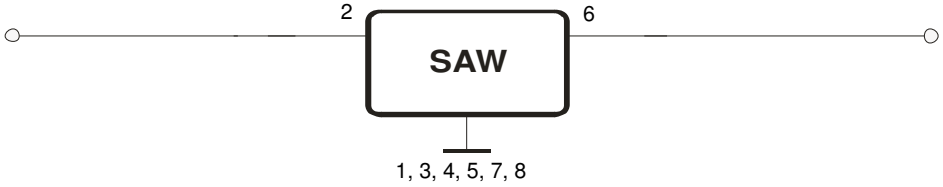
(All dimensions in mm)



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

Date code:	Year + week
K	2018
L	2019
M	2020
...	

50 Ω Test circuit



Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

Stability characteristics, reliability

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

1. Shock:	500 g, 1 ms, half sine wave, 3 shocks each plane; DIN IEC 60068 T2 - 27
2. Vibration:	10 Hz to 2000 Hz, 0.35 mm or 5 g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 60068 T2 - 6
3. Change of temperature:	-55 °C to 125 °C / 15 min. each / 100 cycles DIN IEC 60068 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;

5. SAW devices are Electrostatic Discharge (ESD) sensitive devices.

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;

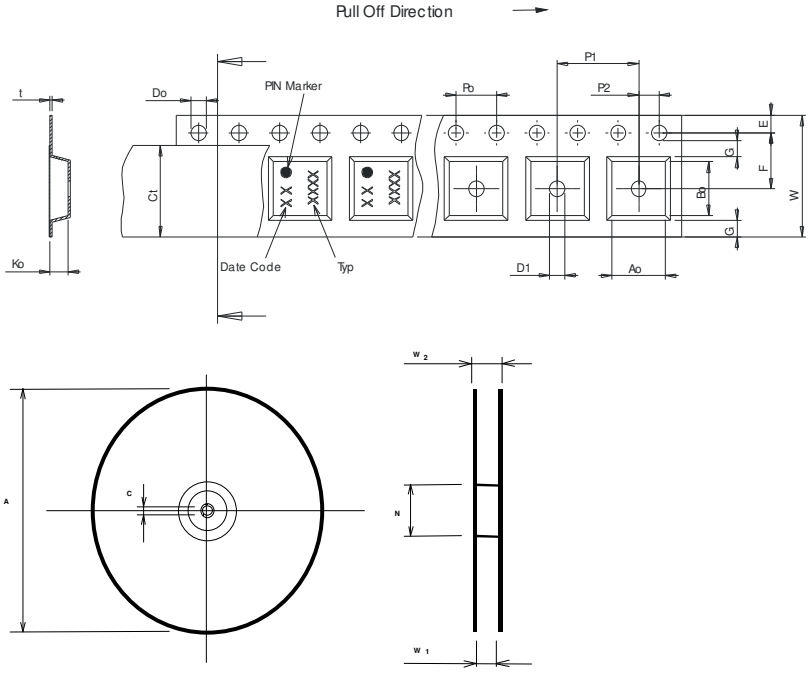
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

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	:5.30	±0.1
Ko	:1.50	±0.1
t	:0.25	±0.05

Reel (all dimensions in mm)

A	:330	or 180
W1	:8.40	+1.5/-0
W2(max)	:14.40	
N(min)	:60.00	
C	:13.0	±0.2



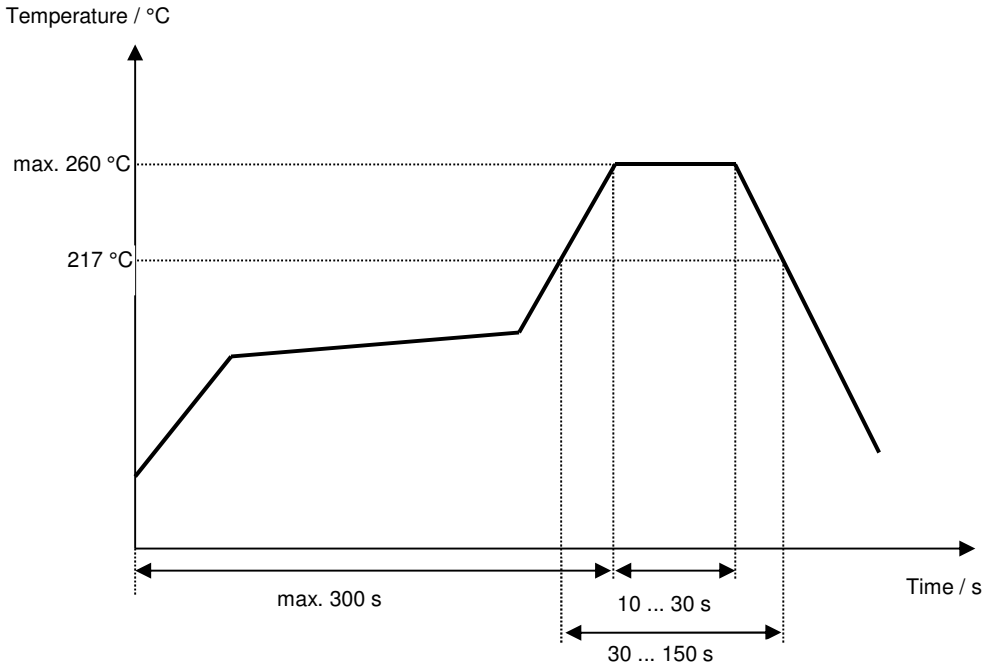
The minimum bending radius is 45 mm.

Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

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 GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

History

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	S.Springfeldt	20.09.2011
2.0	- Absolute attenuation updated (2500 – 6000 MHz)	A. Molke	25.11.2011
2.1	- Change from development spec to filter spec - Typical values added - Filter characteristic added	A. Molke	16.03.2012
3.0	- updated data table - updated filter characteristic - updated construction - updated stability characteristics - updated Tape & Reel	P. Jaster	03.05.2018
4.0	- updated filter characteristic - updated package	P. Jaster	11.06.2018

Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com