Measurement condition

Ambient temperature T_A: 23 °C
Input power level: 0 dBm

Terminating impedance:
Source: 50 Ω
Load: 50 Ω

Input: 118.9 Ω || -2.8 pF
Output: 118.9 Ω || -2.8 pF

Characteristics

Remark:
The maximum attenuation in the passband is defined as the insertion loss a_e. The nominal frequency f_N is fixed at 787.5 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				a_e		4.5	dB	max.	7.0	dB
Nominal frequency				f_N		-			787.5	MHz
Passband				PB		-			f_N ± 0.3	MHz
Absolute attenuation				a_{abs}						
1.0	MHz	…	763.0 MHz			43	dB	min.	20	dB
763.0	MHz	…	776.0 MHz			42	dB	min.	40	dB
776.0	MHz	…	786.1 MHz			31	dB	min.	20	dB
786.1	MHz	…	786.5 MHz			12	dB	min.	10	dB
788.5	MHz	…	793.0 MHz			14	dB	min.	10	dB
793.0	MHz	…	805.0 MHz			39	dB	min.	37	dB
805.0	MHz	…	1500.0 MHz			39	dB	min.	20	dB
Input power level					*)	-		max.	10	dBm
					**)	-		max.	11	dBm
Operating temperature range				OTR		-			- 40 °C ... + 85 °C	
Storage temperature range						-			- 55 °C ... + 125 °C	
Frequency inversion temperature				T_0		0	°C			
Temperature coefficient of frequency				TC_f	***)	-0.036	ppm/K^2			

*) duty cycle = 100%

**) duty cycle = 50%

***) $\Delta f = TC_f(T - T_0)^2 f_N$

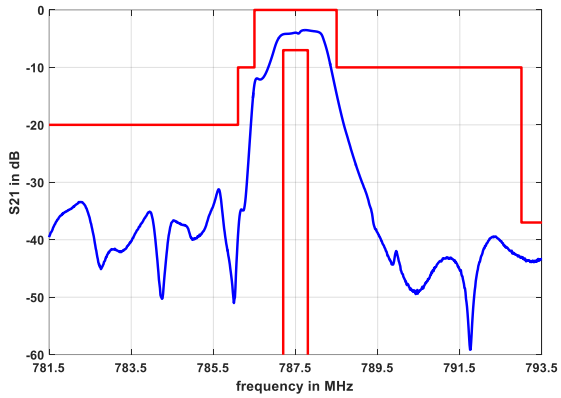
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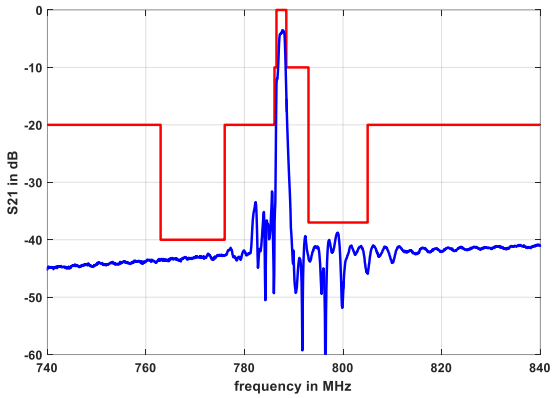
Checked / Approved:

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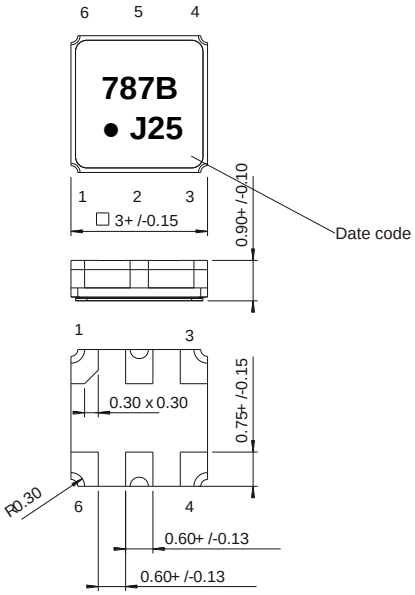
Filter characteristic





Construction and pin connection

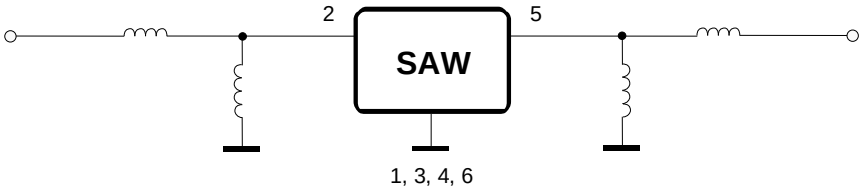
(All dimensions in mm)



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

Date code:	Year + week
J	2017
K	2018
L	2019
...	

50 Ω Test circuit



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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;

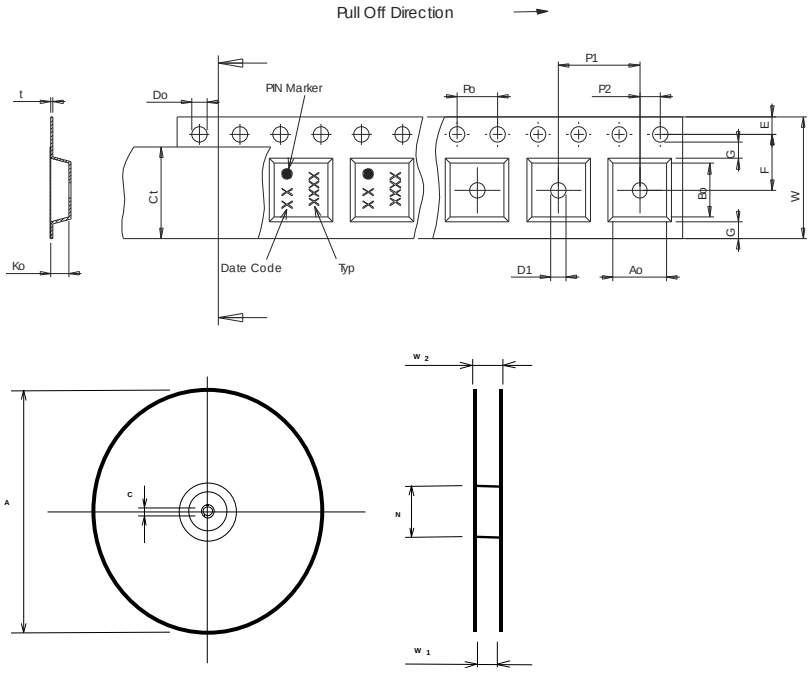
5. SAW devices are Electrostatic Discharge (ESD) sensitive devices.

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;

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	:	5.30 ±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.

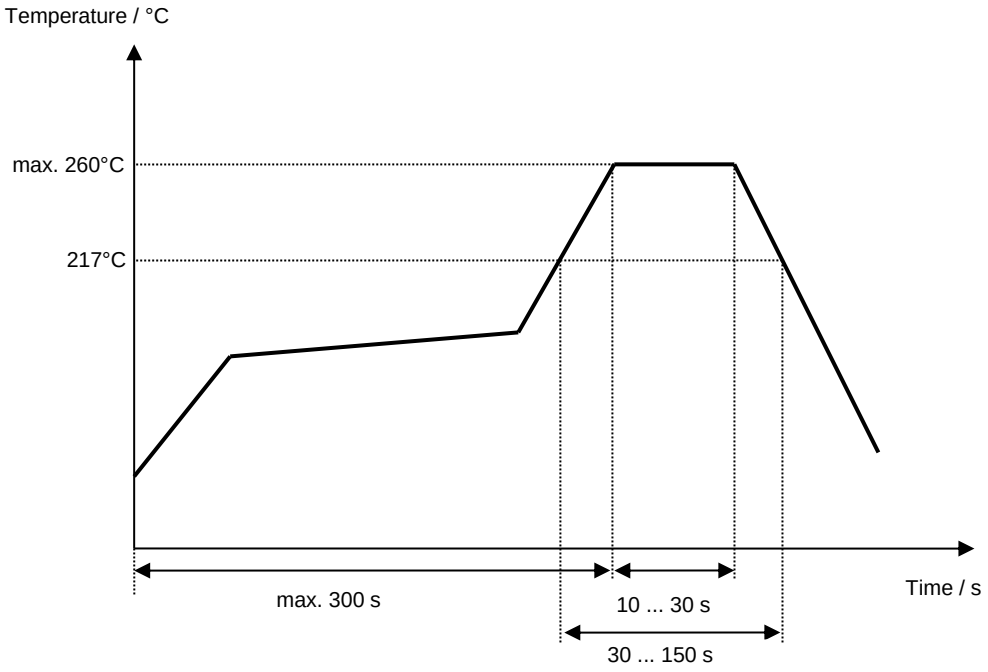
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Air reflow temperature conditions

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

Version	Reason of Changes	Name	Date
1.0	Generation of development specification	A. Molke	04.05.2017
1.1	- Change from development spec to filter spec - Typical values added - Filter characteristic added	A. Molke	22.06.2017

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