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 733MHz 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	1. 5	dB	max.	3.0	dB
Nominal frequency	f_N				733.0	MHz
Passband	PB			f_N ±	5.0	MHz
Pass band variation		0.4	dB	max.	0.8	dB
Absolute attenuation	a_{abs}					
10 MHz … 200 MHz		38	dB	min.	20	dB
200 MHz … 550 MHz		34	dB	min.	15	dB
816 MHz … 905 MHz		38	dB	min.	5	dB
905 MHz … 1073 MHz		37	dB	min.	20	dB
1073 MHz … 1085 MHz		42	dB	min.	33	dB
1085 MHz … 1480 MHz		39	dB	min.	15	dB
1480 MHz … 2690 MHz		23	dB	min.	10	dB
2690 MHz … 4900 MHz		15	dB	min.	10	dB
Group delay ripple within PB	p-p	13	ns	max.	50	ns
Absolute group delay at f_N		35	ns	max.	100	ns
Return loss within PB		16	dB	min.	14	dB
Input power level				max.	16	dBm
Operating temperature range	OTR	-			- 40 °C ... + 85°C	
Storage temperature range		-			- 40 °C ... + 85°C	
Temperature coefficient of frequency	TC_f *	-42	ppm/K			

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

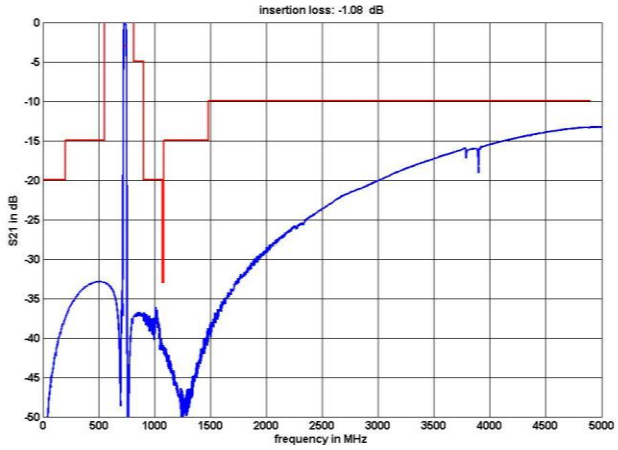
Generated:

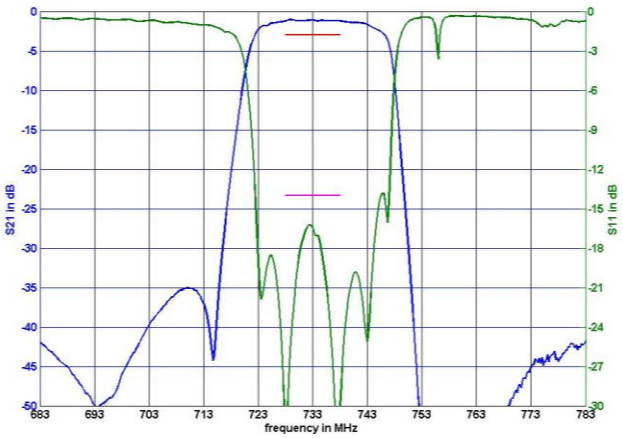
Checked / Approved:

Microchip Frequency Technology GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

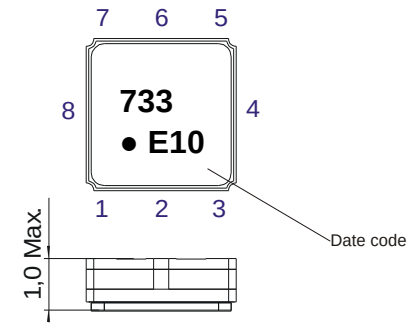
Filter characteristic

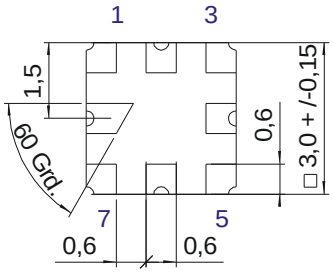




Construction and pin connection

(All dimensions in mm)

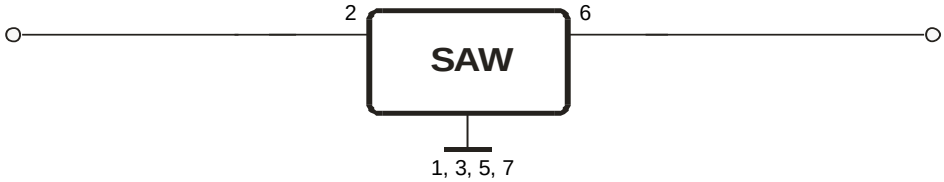




1	Ground
2	Input
3	Ground
4	Floating
5	Ground
6	Output
7	Ground
8	Floating

Date code:	Year + week
E	2014
F	2015
G	2016
...	

50 Ω Test circuit



Microchip Frequency Technology GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

Stability characteristics, reliability

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

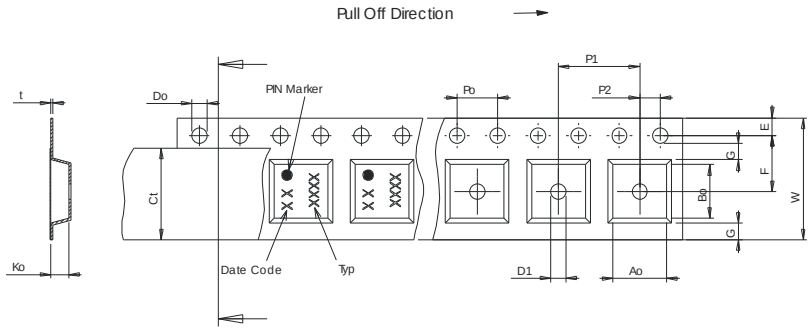
1. Shock:	500g, 1 ms, half sine wave, 3 shocks each plane; DIN IEC 68 T2 - 27
2. Vibration:	10 Hz to 500 Hz, 0.35 mm or g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 68 T2 - 6
3. Change of temperature:	-55 °C to 125°C / 15 min. each / 100 cycles DIN IEC 68 part 2 – 14 Test 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

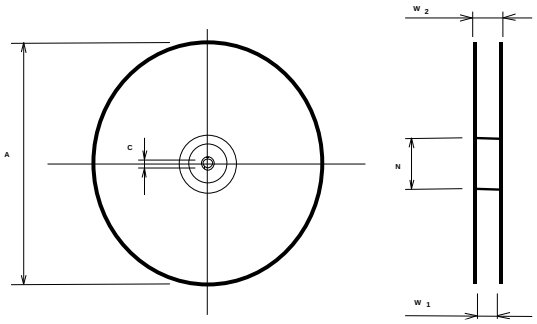
Tape & Reel: IEC 286 – 3, with exception of value for N and minimum bending radius;
tape type II, embossed carrier tape with top cover tape on the upper side;

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	:	12.00	± 0.3
Po	:	4.00	± 0.1
Do	:	1.55	+0.1/-0
E	:	1.75	± 0.1
F	:	5.50	± 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	:	9.2	± 0.1



Reel (all dimensions in mm)

A	:	180.0	
W1	:	12.4	+1.5/-0
W2(max)	:	18.4	
N(min)	:	60.0	
C	:	13.0	± 0.2

The minimum bending radius is 45 mm.

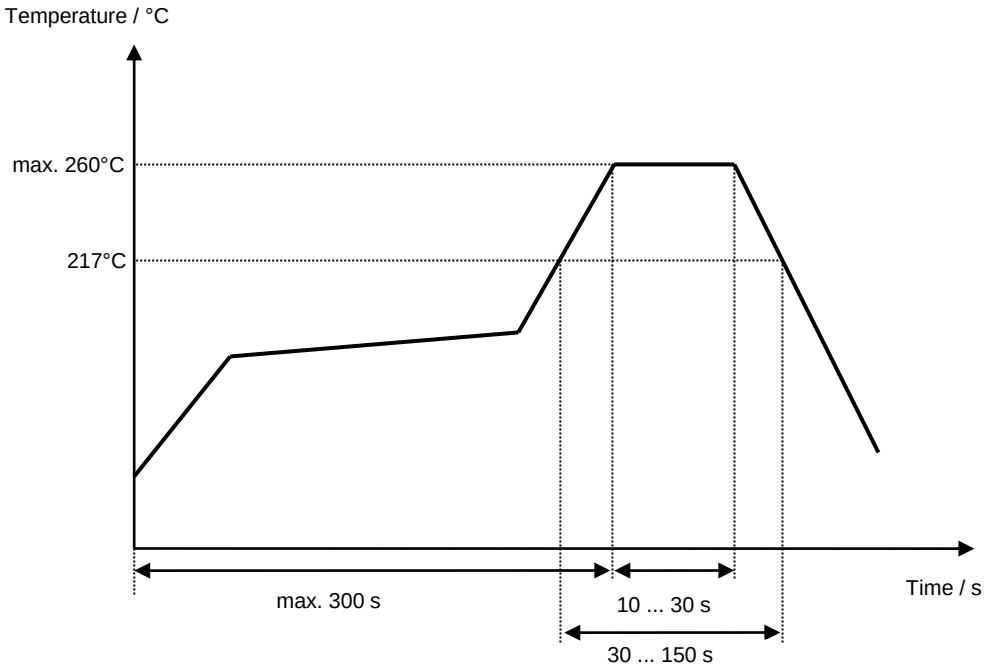
Microchip Frequency Technology GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

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



Microchip Frequency Technology GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

History

Version	Reason of Changes	Name	Date
1.0	Generation of development specification.	S.Springfeldt	21.09.2012
2.0	Change of package (6pad to 8pad with floating pins) Change of data table @4900MHz	S.Springfeldt	04.01.2013
2.1	Generation of filter specification	S.Springfeldt	07.01.2013
2.2	Updating plots and typical values	S.Springfeldt	04.07.2013
3.0	Change of tape and reel width from 8mm to 12mm	S.Springfeldt	23.10.2013
3.1	maximum input power updated	Kortenbeutel	07.01.2014
3.2	Adding tape and reel dimensions	S.Springfeldt	06.03.2014

Microchip Frequency Technology GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.