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 315,00 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 (reference level)	$a_e = a_{min}$	1,5	dB	max.	2,0	dB
Nominal frequency	f_N	-			315,0	MHz
Centre frequency 3dB	f_C	315,0	MHz		-	
Passband	PB				$f_N \pm 0,3$	MHz
Pass band ripple		0,2	dB	max.	1,2	dB
Absolute attenuation	a_{rel}					
f_N - 0,3 MHz ... f_N + 0,3 MHz		0,2	dB	max.	1,2	dB
f_N - 305,0 MHz ... f_N - 27,0 MHz		53	dB	min.	50	dB
f_N - 22,0 MHz ... f_N - 21,1 MHz		56	dB	min.	45	dB
f_N - 11,0 MHz ... f_N - 10,4 MHz		63	dB	min.	35	dB
f_N + 10,4 MHz ... f_N + 11,0 MHz		29	dB	min.	18	dB
f_N + 21,1 MHz ... f_N + 22,0 MHz		55	dB	min.	37	dB
f_N + 42,5 MHz ... f_N + 43,7 MHz		72	dB	min.	55	dB
f_N + 85,0 MHz ... f_N + 685,00 MHz		62	dB	min.	40	dB
VSWR within PB		-		max.	1,6 : 1	
Input power level		-		max.	7	dBm
Operating temperature range	OTR	-		- 40 °C ... + 85°C		
Storage temperature range		-		- 45 °C ... + 90°C		
Temperature coefficient of frequency	TC_f *	- 30	ppm/K			

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

Generated:

Checked / Approved:

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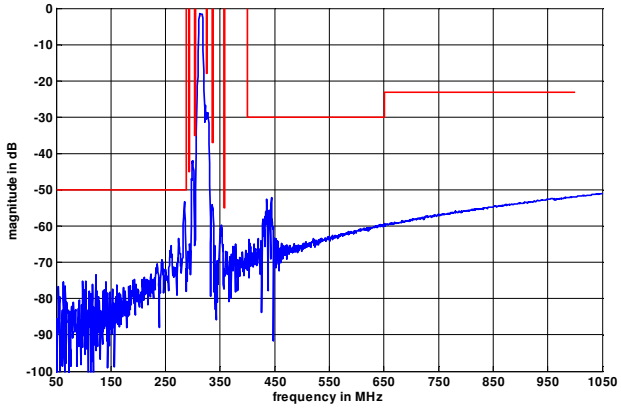
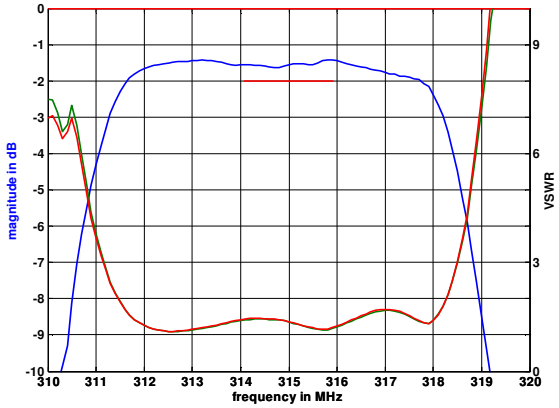
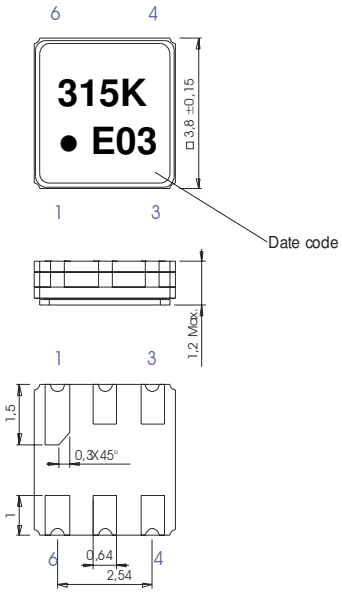
Filter characteristic





Construction and pin connection

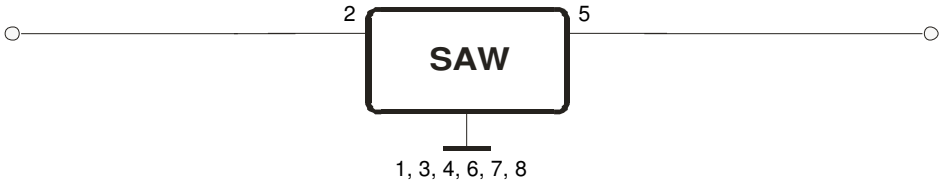
(All dimensions in mm)



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

Date code:	Year + week
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:

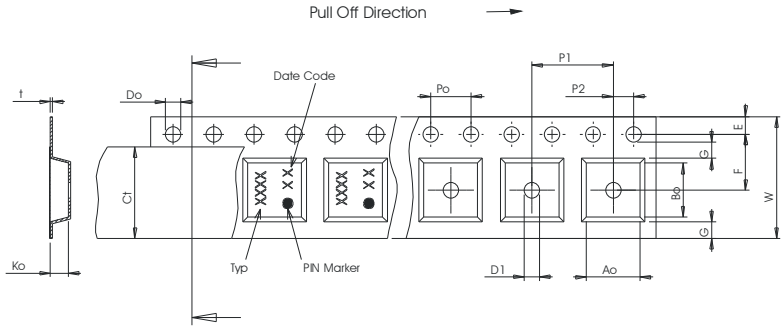
1. Shock:	500g, 1 ms, half sine wave, 3 shocks each plane; DIN IEC 68 T2 - 27
2. Vibration:	10 Hz to 500 Hz, 0.35 mm or g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 68 T2 - 6
3. Change of temperature:	-55 °C to 125°C / 15 min. each / 100 cycles DIN IEC 68 part 2 – 14 Test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

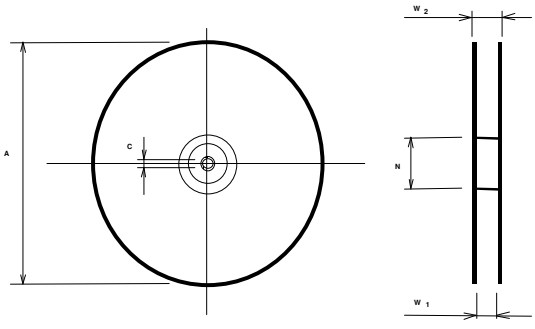
Tape & Reel: IEC 286 – 3, with exception of value for N and minimum bending radius;
tape type II, embossed carrier tape with top cover tape on the upper side;

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	: 12,00	± 0,3
Po	: 4,00	± 0,1
Do	: 1,50	+0,1/-0
E	: 1,75	± 0,1
F	: 5,50	± 0,05
G(min)	: 0,75	
P2	: 2,00	± 0,05
P1	: 8,00	± 0,1
D1(min)	: 1,50	
Ao	: 4,30	± 0,1
Bo	: 4,30	± 0,1
Ct	: 9,5	± 0,1



Reel (all dimensions in mm)

A	:330	
W1	: 12,4	+2/-0
W2(max)	: 18,4	
N(min)	: 50	
C	: 13,0	+0,5/-0,2

The minimum bending radius is 45 mm.

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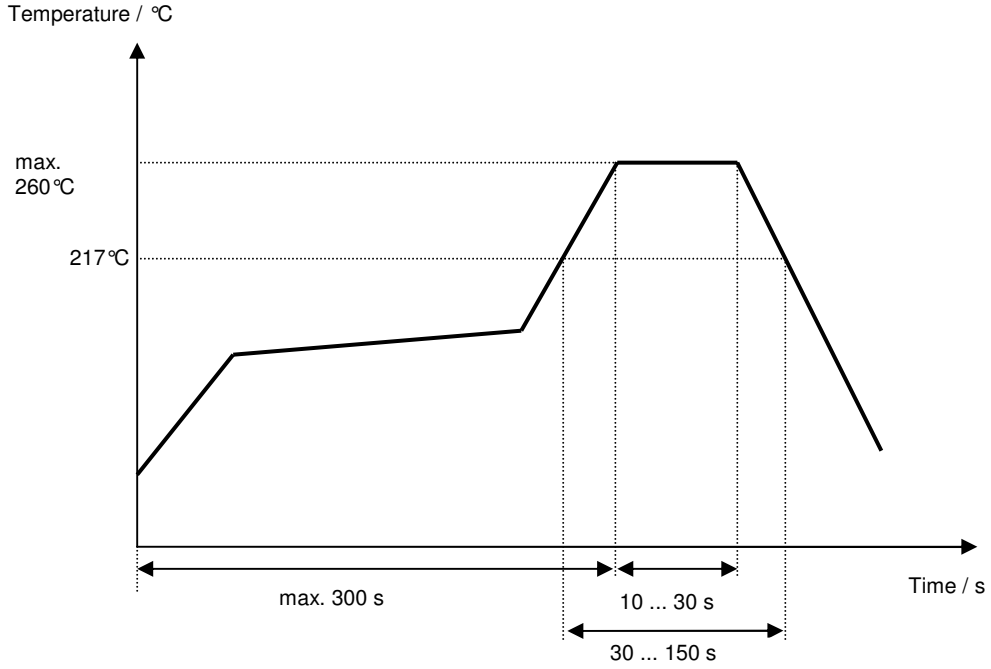
Air reflow temperature conditions

Conditions	**Exposure**
Average ramp-up rate (30℃ to 217℃)	less than 3℃/second
> 100℃	between 300 and 600 seconds
> 150℃	between 240 and 500 seconds
> 217℃	between 30 and 150 seconds
Peak temperature	max. 260℃
Time within 5℃ of actual peak temperature	between 10 and 30 seconds
Cool-down rate (Peak to 50℃)	less than 6℃/second
Time from 30℃ 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	Strehl	05.10.2005
1.1	- Add typical values, add filter characteristic - Generation of filter specification	Channaa	01.03.2006
1.2	- maximum input power updated	Kortenbeutel	16.01.2014

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