VI TELEFILTER — Filter specification — TFS 520B — 1/5

Measurement condition

Ambient temperature: 23 °C
Input power level: 0 dBm
Terminating impedance:
Input: 150 Ω
Output: 150 Ω

Characteristics

Remark:
The nominal frequency f_N is fixed at 520,00 MHz. The insertion loss a_e is defined as loss value determined at f_N. Reference level for the relative attenuation a_{rel} of the TFS 520B is the insertion loss a_e. All specified data are met within the operating temperature range.

D a t a		typ. value		tolerance / limit		
Insertion Loss (reference level)	a_e	1,9	dB		4,5	dB
Nominal Frequency	f_N	-			520,00	MHz
Bandwidth	BW					
3 dB		19,2	MHz		-	
Relative Attenuation	a_{rel}					
65 MHz … f_N - 65 MHz		58	dB	min.	50	dB
f_N + 65 MHz … 1000 MHz		54	dB	min.	50	dB
@ 65 MHz		63	dB	min.	56	dB
@ 130 MHz		63	dB	min.	60	dB
@ 195 MHz		67	dB	min.	60	dB
@ 260 MHz		65	dB	min.	60	dB
@ 325 MHz		63	dB	min.	60	dB
@ 390 MHz		62	dB	min.	58	dB
@ 455 MHz		56	dB	min.	46	dB
@ 585 MHz		57	dB	min.	52	dB
@ 650 MHz		60	dB	min.	55	dB
@ 715 MHz		58	dB	min.	55	dB
@ 780 MHz		55	dB	min.	52	dB
Input power level				max.	10	dBm
Operating Temperature Range	OTR	-		- 40 °C ... + 85 °C		
Storage Temperature Range		-		- 55 °C ... + 125 °C		
Temperature Coefficient of Frequency	TC_f *	- 73	ppm/K		-	

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

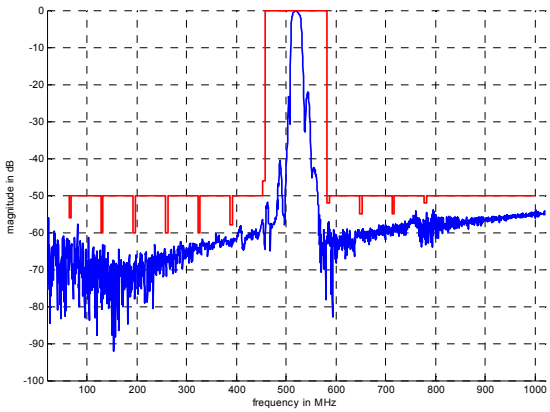
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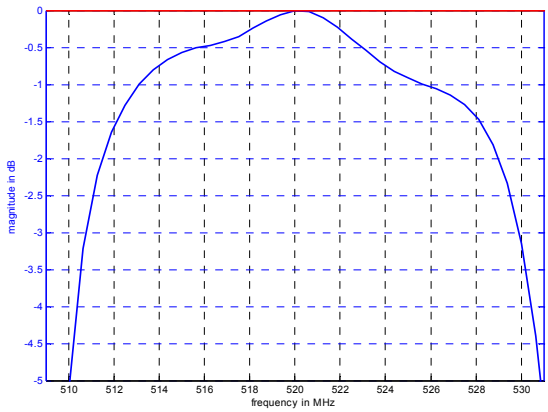
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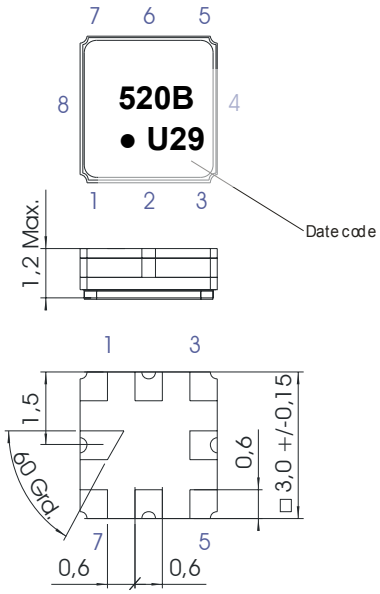
Filter characteristic





Construction and pin connection

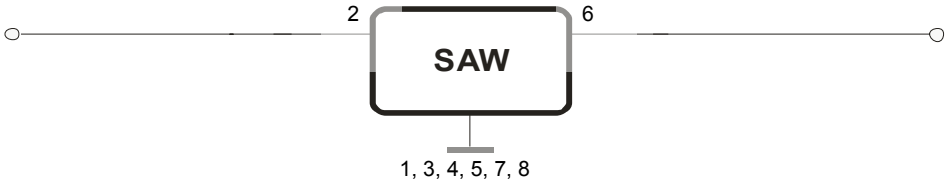
(All dimensions in mm)



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

Date code:	Year + week
U	2006
V	2007
W	2008
...	

150 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 plan, 3 plans; 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 refer to the attached "Air reflow temperature conditions" on page 4;

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

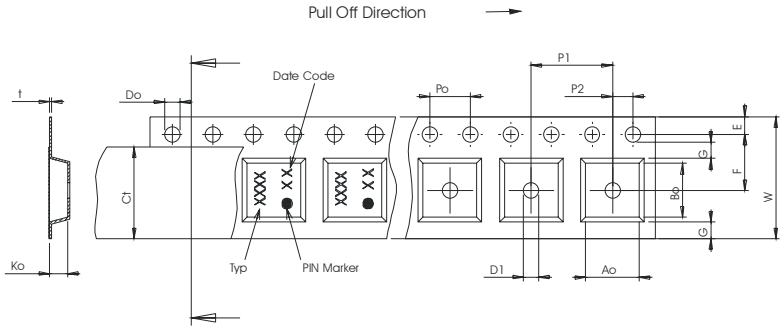
Packing

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:	9000
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

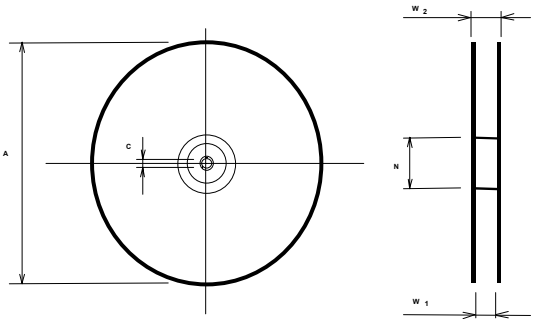
Tape (all dimensions in mm)

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	:	5,5 ± 0,1



Reel (all dimensions in mm)

A	:	330
W1	:	8,4 +1,5/-0
W2(max)	:	14,4
N(min)	:	50
C	:	13,0 +0,5/-0,2



The minimum bending radius is 45 mm.

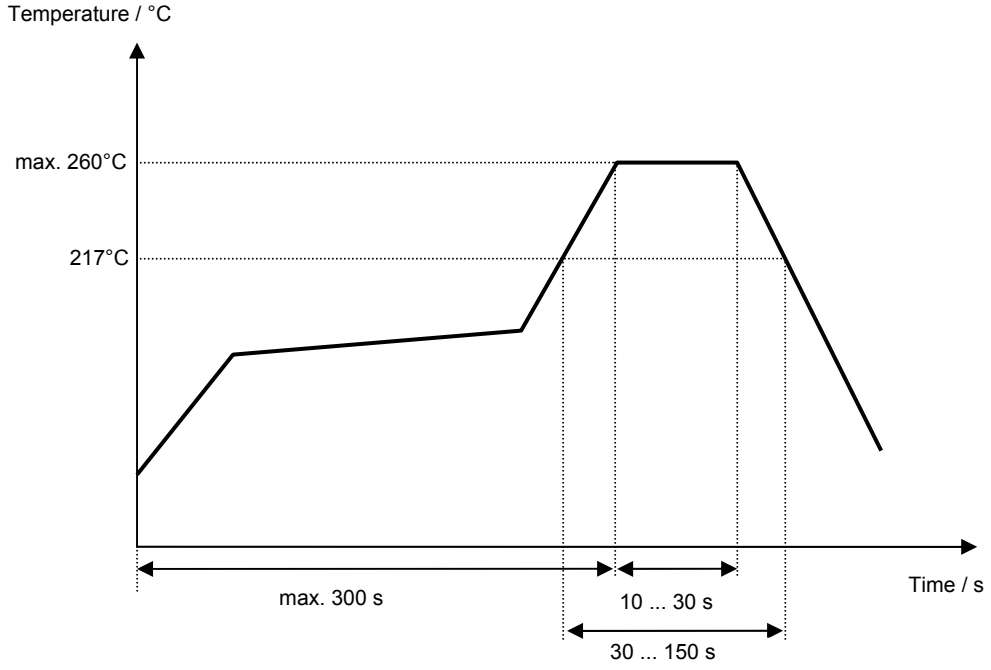
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Air reflow temperature conditions

Conditions	Exposure
Average ramp-up rate (30°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	Channaa	09.06.2006
1.1	- Change Attenuation, add typical values - Add filter characteristic, generation of filter specification	Channaa	19.07.2006

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