

Microchip**Filter specification****TFS1583****1/5****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 passband is defined as the insertion loss a_e . The nominal frequency f_N is fixed at 1583.0 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	2.0	dB	max.	4.0	dB
Nominal frequency	f_N	-			1583.0	MHz
Passband	PB	-		$f_N \pm$	22.0	MHz
Passband variation		1.0	dB	max.	2.5	dB
Absolute attenuation	a_{abs}	-				
0.3 MHz ... 1536 MHz		29	dB	min.	25	dB
1628 MHz ... 2500 MHz		34	dB	min.	25	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 *)	-42	ppm/K			

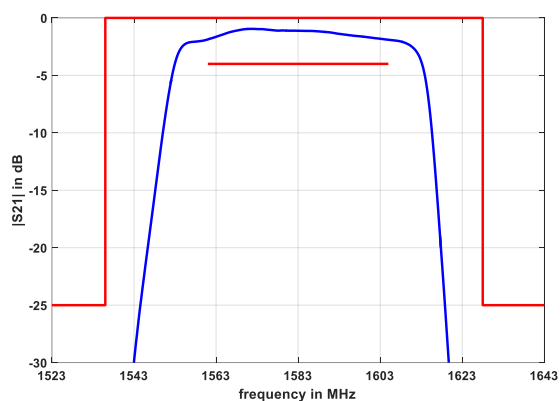
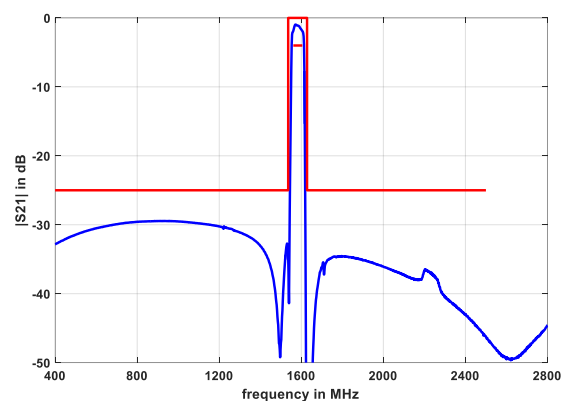
*) $\Delta f = TC_f (T - T_A) f_N$

Generated:**Checked / Approved:**

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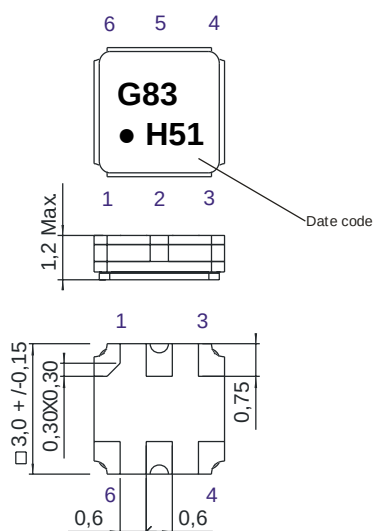
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Filter characteristic



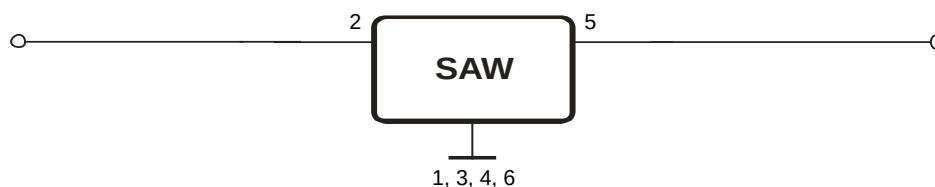
Construction and pin connection

(All dimensions in mm)



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

Date code: Year + week
H 2016
J 2017
K 2018
...

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

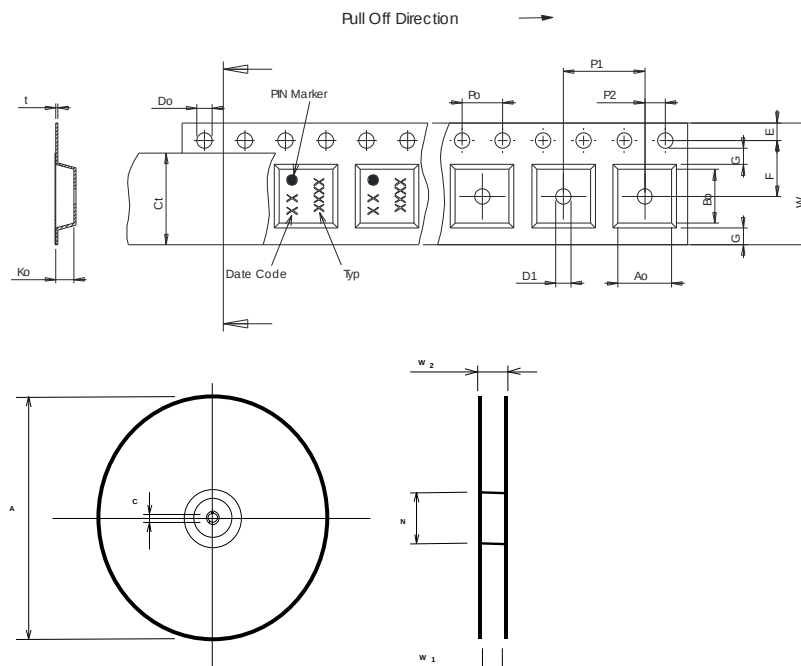
- Tape & Reel: IEC 286 – 3, with exception of value for N and minimum bending radius;
tape type II, embossed carrier tape with top cover tape on the upper side;
- max. pieces of filters per reel: 3000
reel of empty components at start: min. 300 mm
reel of empty components at start including leader: min. 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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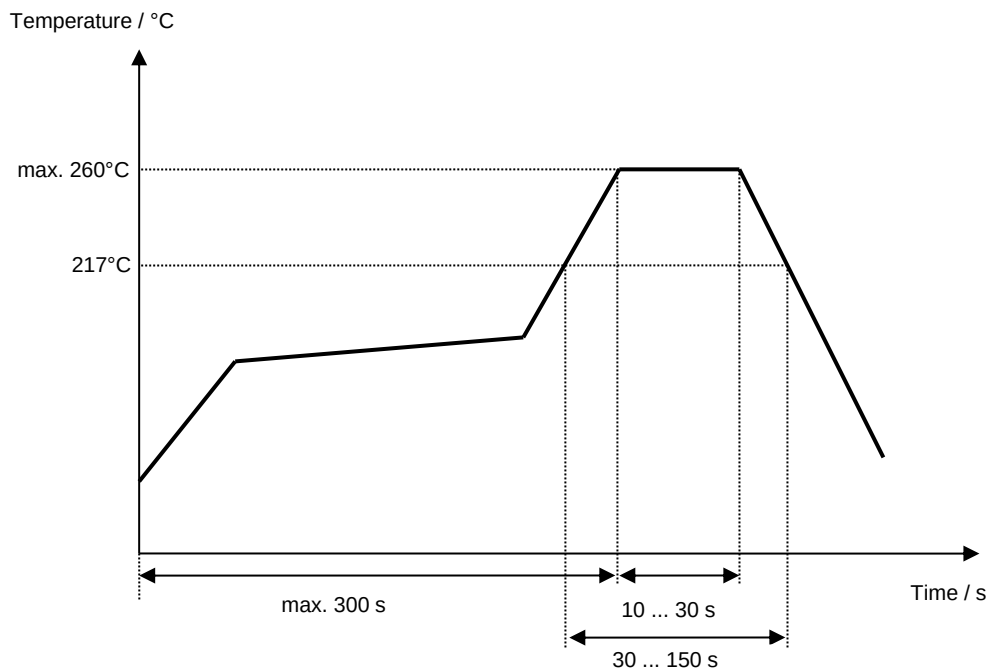
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Air reflow temperature conditions

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

Microchip**Filter specification****TFS1583****5/5****History**

Version	Reason of Changes	Name	Date
1.0	Generation of development specification	A. Molke	13.10.2016
1.1	<ul style="list-style-type: none">- Change from development spec to filter spec- Typical values added- Filter characteristic included	A. Molke	15.12.2016

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