

Microchip**Filter specification****TFS 2265****1/5****Measurement condition**

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

Terminating impedance:

Source: 50 Ω
 Load: 50 Ω

Input: 49.7 Ω || -0.5 pF
 Output: 49.7 Ω || -0.5 pF

Characteristics

Remark:

The reference level for the relative attenuation a_{rel} of the TFS2265 is the minimum attenuation in the passband. The maximum attenuation in the passband is defined as the insertion loss a_e . The nominal frequency f_N is fixed at 2265 MHz without any tolerance or limit. The values of relative attenuation a_{rel} are guaranteed over the whole operating temperature range. The frequency shift of the filter within the operating temperature range is included in the production tolerance scheme.

D a t a**typ. value****tolerance / limit**

Insertion loss in PB	a_e	4.4	dB	max.	5.0	dB
Nominal frequency	f_N	-			2265.0	MHz
Passband	PB	-		$f_N \pm$	90.0	MHz
Passband variation		1.3	dB	max.	2.0	dB
Passband variation in any 20 MHz segment within PB		0.6	dB	max.	1.0	dB
Relative attenuation	a_{rel}					
500 MHz ... 1850 MHz		21	dB	min.	20	dB
2800 MHz ... 4000 MHz		30	dB	min.	25	dB
Input power level		-		max.	15	dBm
Operating temperature range	OTR	-			- 40 °C ... + 85 °C	
Storage temperature range		-			- 40 °C ... + 85 °C	
Temperature coefficient of frequency	TC_f *)	-76	ppm/K			

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

Generated:

Checked / Approved:

Microchip Frequency Technology GmbH

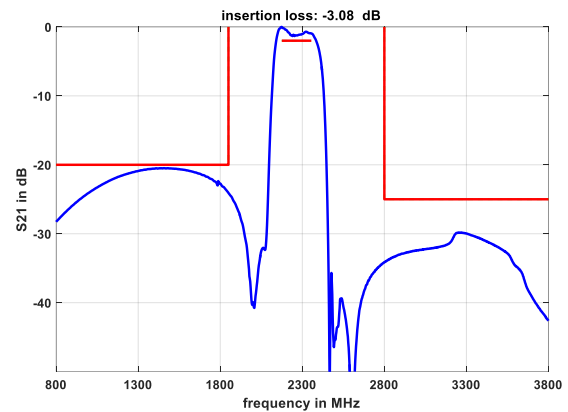
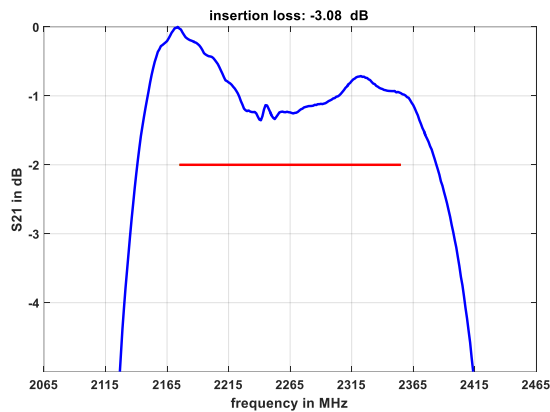
Potsdamer Straße 18

D 14 513 TELTOW / Germany

Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

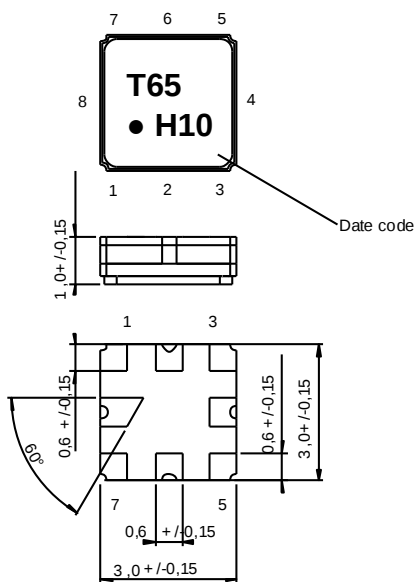
Microchip Frequency Technology GmbH reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

Filter characteristic



Construction and pin connection

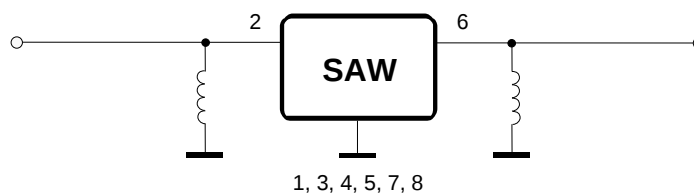
(All dimensions in mm)



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

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

50 Ohm 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: 500 g, 1 ms, half sine wave, 3 shocks each plane;
DIN IEC 68 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 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"
5. ESD SAW devices are electrostatic discharge (ESD) sensitive devices

This filter is RoHS compliant (2011/65/EU)

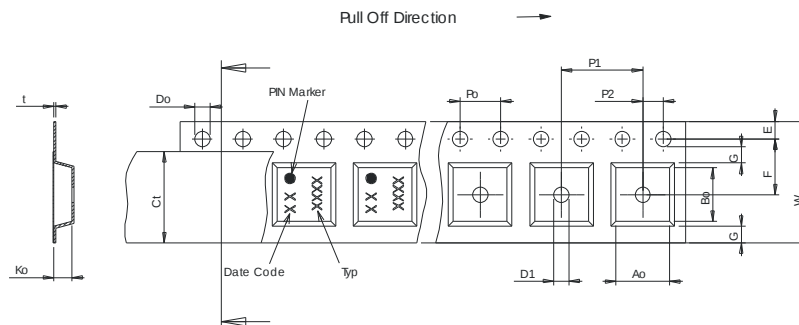
Packing

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;

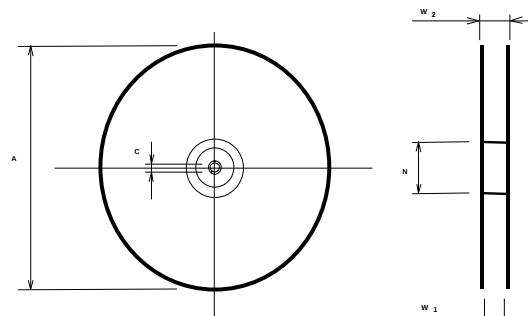
max. pieces of filters per reel: 3000
reel of empty components at start: min. 300 mm
reel of empty components at start including leader: min. 500 mm
trailer: min. 300 mm

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	: 5.3 ± 0.1

**Reel (all dimensions in mm)**

A	: 330 or 180
W1	: 8.4 +1.5/-0
W2(max)	: 14.4
N(min)	: 60
C	: 13.0 ± 0.2



The minimum bending radius is 45 mm.

Microchip Frequency Technology GmbH

Potsdamer Straße 18

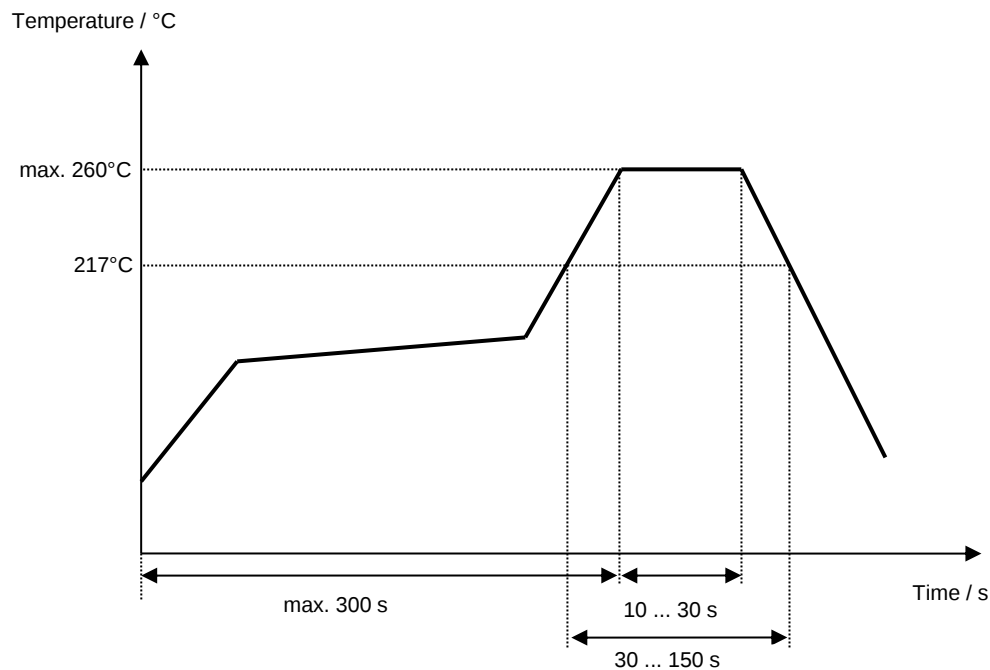
D 14 513 TELTOW / Germany

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**Filter specification****TFS 2265****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	A. Molke	02.10.2015
1.1	- Update of maximum input power level	A. Molke	12.10.2015
2.0	- Passband variation relaxed	A. Molke	01.03.2016
3.0	- Passband variation relaxed - Passband variation in 20 MHz segments included - Change from development spec to filter spec - Typical values added - Filter characteristic added - Update of test circuit	A. Molke	09.03.2016

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.