

**Microchip****Filter specification****TFS 800A****1/5****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 800 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	$a_e = a_{max}$	1,7	dB	max.	3,0	dB
Nominal frequency	$f_N$	-			800,0	MHz
Passband	PB	-		$f_N \pm$	6,0	MHz
Pass band ripple		0,5	dB	max.	1,0	dB
Absolute attenuation	$a_{abs}$					
0,3 MHz ... 770 MHz		43	dB	min.	40	dB
820 MHz ... 836 MHz		44	dB	min.	10	dB
881 MHz ... 1200 MHz		48	dB	min.	40	dB
1200 MHz ... 2000 MHz		33	dB	min.	20	dB
VSWR within PB		1,8 : 1		max.	2,2 : 1	
Input power level **		-		max.	10	dBm
Operating temperature range	OTR	-		- 30 °C ... + 70 °C		
Storage temperature range		-		- 40 °C ... + 85 °C		
Temperature coefficient of frequency	$TC_f$ *	-42	ppm/K	-		

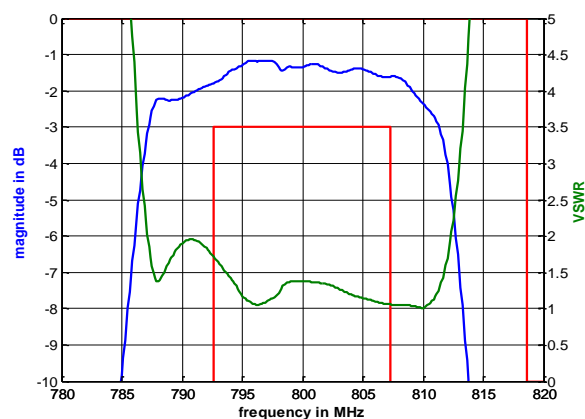
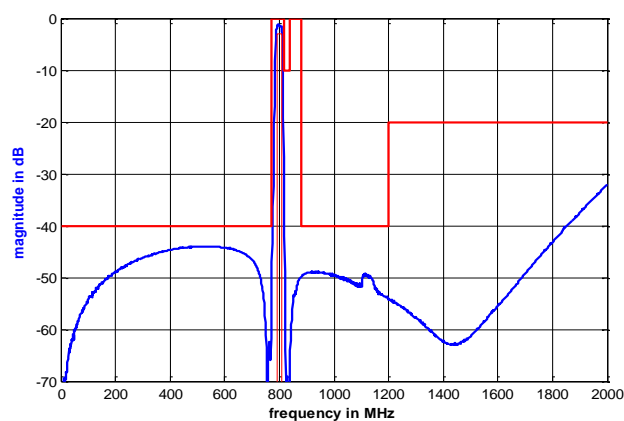
\*)  $\Delta f_c(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_0) \times f_0(\text{MHz})$ .

\*\*) also guaranteed are 27dBm for 48 hours

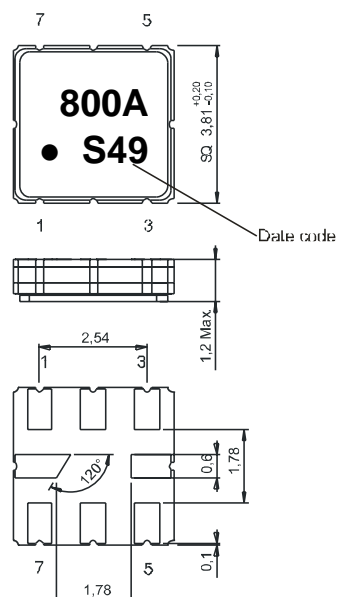
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Microchip Frequency Technology GmbH  
Potsdamer Straße 18  
D 14 513 TELTOW / Germany  
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30

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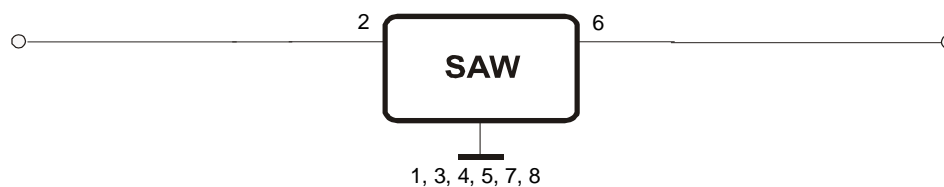
**Filter characteristic****Construction and pin connection**

(All dimensions in mm)



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

Date code: Year + week  
 S 2004  
 T 2005  
 U 2006  
 ...

**50  $\Omega$  Test circuit**

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**Stability characteristics**

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

1. Shock: 500g, 18 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: twice max.;  
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

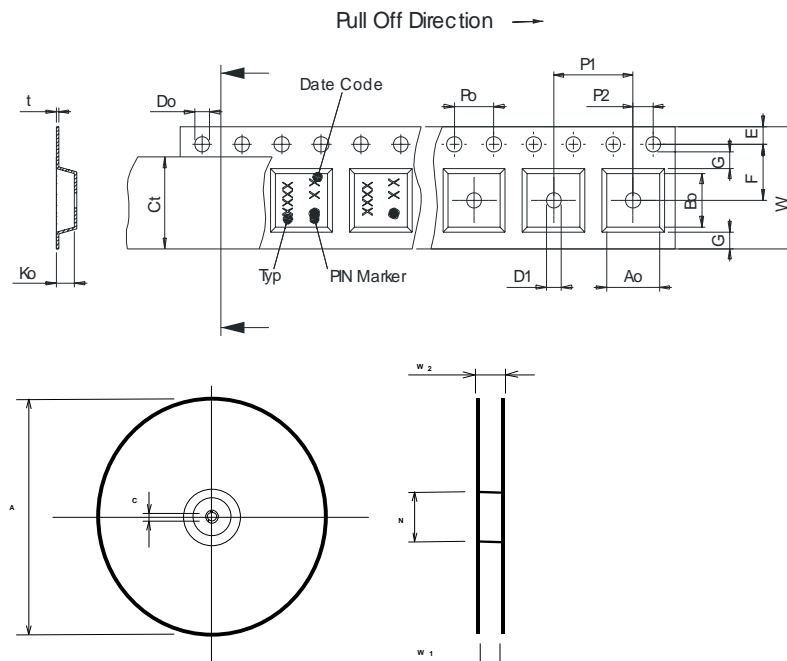
**Packing**

Tape & Reel: IEC 286 – 3, with exeption 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 peer 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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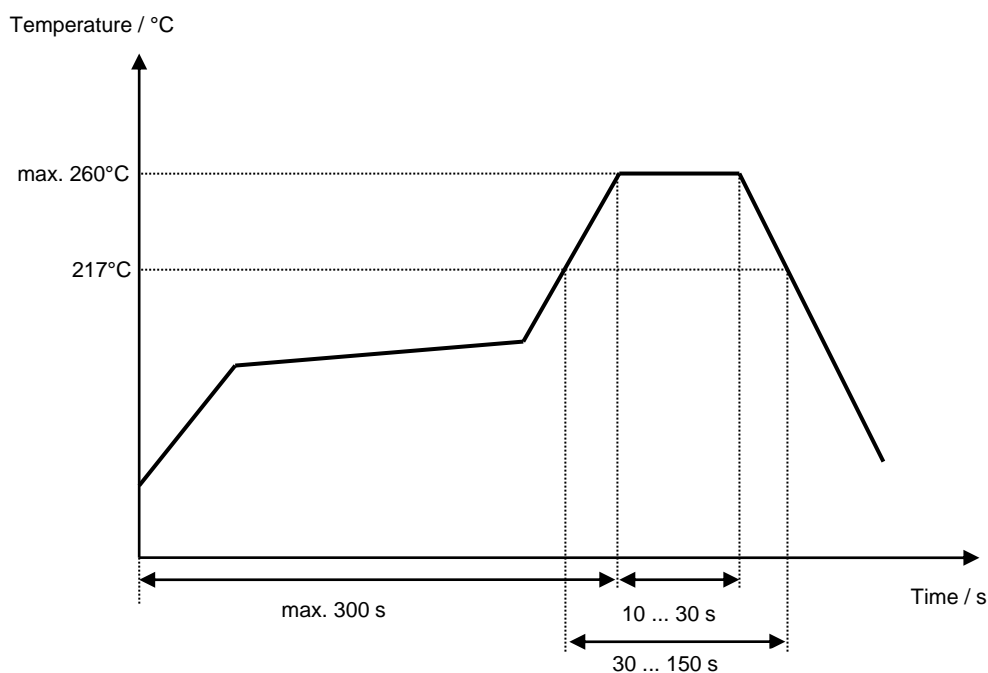
**D 14 513 TELTOW / Germany**

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

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**Air reflow temperature conditions**

<b>Conditions</b>	<b>Exposure</b>
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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**Microchip****Filter specification****TFS 800A****5/5****History**

<b>Version</b>	<b>Reason of Changes</b>	<b>Name</b>	<b>Date</b>
1.0	- Generation of filter specification	Martens	30.11.2004

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