

Microchip**Filter specification****TFS 730A****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 730 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	1.9 dB	max.	3.0	dB
Nominal frequency		f_N	-		730.0	MHz
Passband		PB		$f_N \pm$	12.0	MHz
Passband variation			0.5 dB	max.	1.0	dB
Absolute attenuation		a_{abs}				
1	MHz ... 200 MHz		55 dB	min.	50.0	dB
200	MHz ... 581 MHz		60 dB	min.	55.0	dB
581	MHz ... 650 MHz		53 dB	min.	33.5	dB
810	MHz ... 879 MHz		45 dB	min.	33.5	dB
879	MHz ... 1030 MHz		46 dB	min.	42.0	dB
Group delay ripple within PB		p-p	20 ns	max.	0.2	μ s
Input power level			-	max.	10	dBm
Operating temperature range		OTR	-		-10 °C ... +75 °C	
Storage temperature range			-		-55 °C ... +125 °C	
Temperature coefficient of frequency		TC_f	*) -76 ppm/K			

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

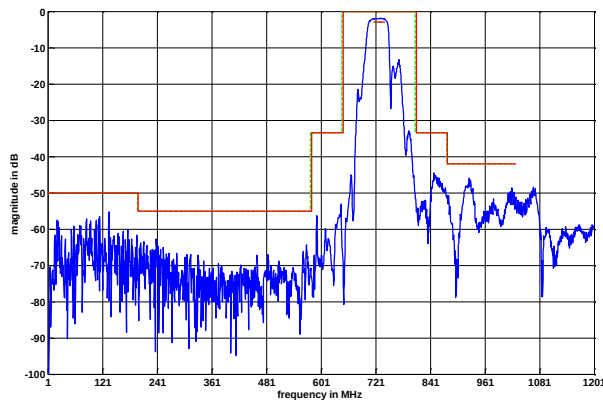
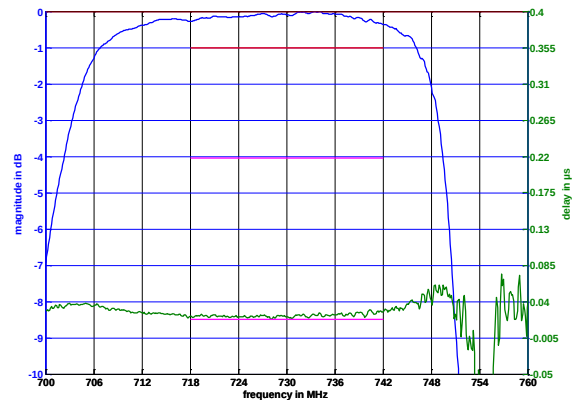
Generated:

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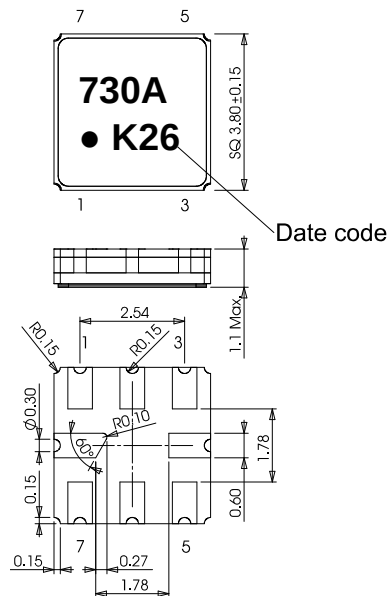
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Filter characteristic



Construction and pin connection

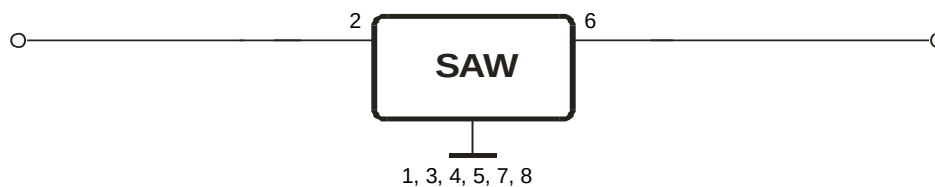
(All dimensions in mm)



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

Date code:	Year + week
K	2018
L	2019
M	2020
...	

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;

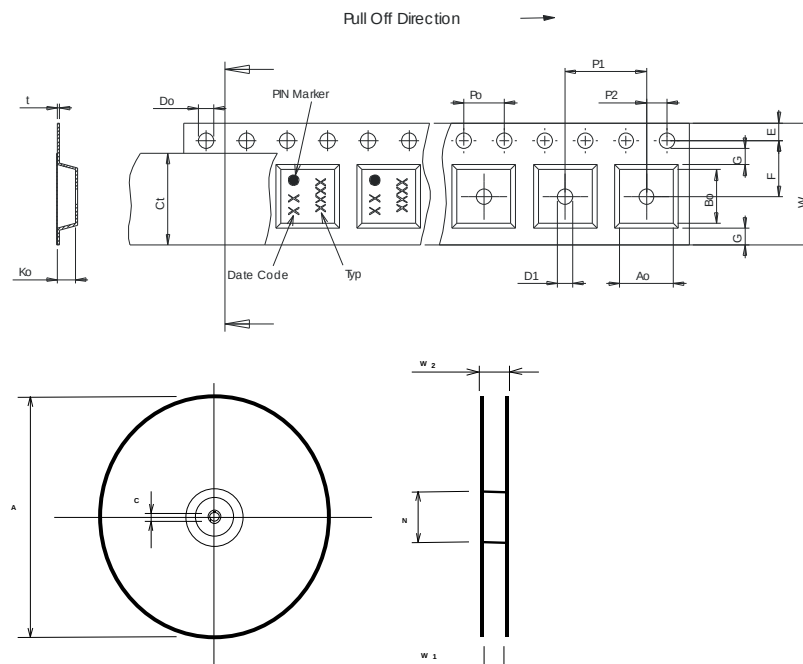
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

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	: 9.2 ±0.1
Ko	: 1.80 ±0.1
t	: 0.30 ±0.05

Reel (all dimensions in mm)

A	: 330 or 180
W1	: 12.4 +2/-0
W2(max)	: 18.40
N(min)	: 50.00
C	: 13.0 +0.5/-0.2



The minimum bending radius is 45 mm.

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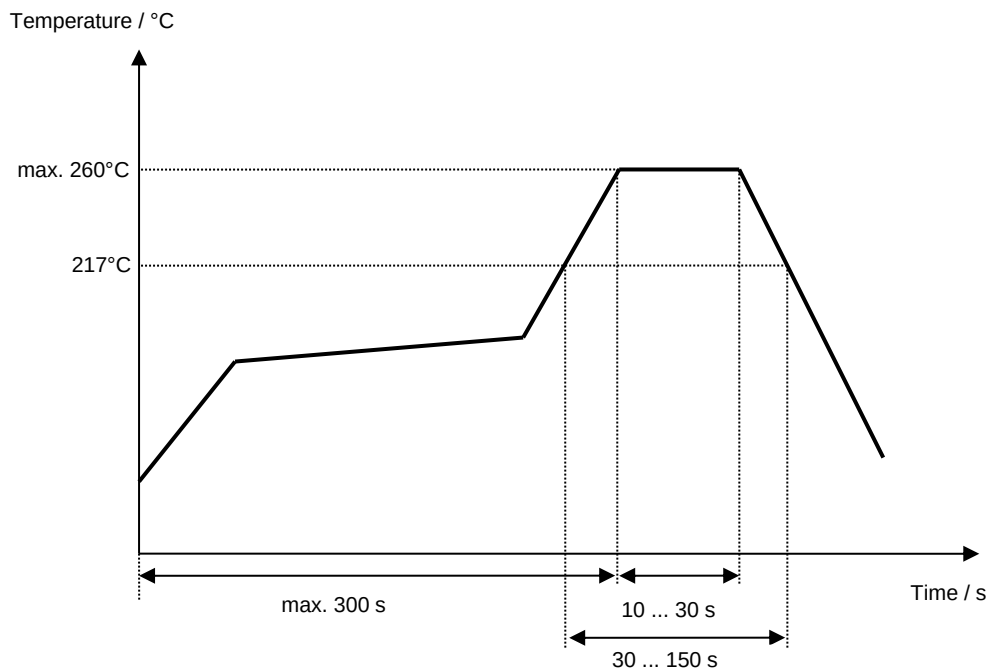
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Air reflow temperature conditions

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 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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Microchip**Filter specification****TFS 730A****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	Strehl	17.03.2009
2.0	- Change attenuation, add typical values and filter characteristic - Generation of filter specification	Channaa	27.08.2009
2.1	- Maximum input power updated	Kortenbeutel	07.01.2014
3.0	- Intermodulation limits removed - Maximum input power corrected - Typos corrected - Update of package drawing - Orientation of tape and reel updated	Molke	28.06.2018

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