Measurement condition

Ambient temperature:	23	℃
Input power level:	0	dBm
Terminating impedance:		
Input:	50	Ω
Output:	50	Ω

Characteristics

Remark:
The reference level for the relative attenuation a_{rel} of the TFS 1750C is the maximum attenuation in the pass band. The maximum attenuation in the pass band is defined as the insertion loss a_e. The nominal frequency f_N is fixed at 1750,0 MHz without any tolerance or limit. The values of relative attenuation a_{rel} 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 (reference level)	a_e	2,1	dB	max.	3,0	dB
Nominal frequency	f_N	-			1750,0	MHz
Passband	PB			f_N ±	12,0	MHz
Pass band variation		0,9	dB	max.	1,2	dB
Relative attenuation	a_{rel}					
1250 MHz ... 1680 MHz		26	dB	min.	20	dB
1680 MHz ... 1715 MHz		25	dB	min.	10	dB
1785 MHz ... 1820 MHz		18	dB	min.	10	dB
1820 MHz ... 2250 MHz		35	dB	min.	20	dB
Group delay ripple within PB		7	ns	max.	12	ns
Return loss within PB		10	dB	min.	8	dB
Input power level		-		max.	7	dBm
Operating temperature range	OTR	-		- 40 ℃ ... + 85℃		
Storage temperature range		-		- 40 ℃ ... + 85℃		
Temperature coefficient of frequency	TC_f *	-36	ppm/K		-	

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

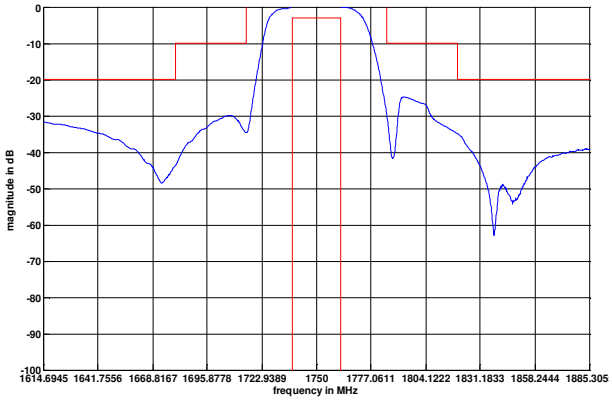
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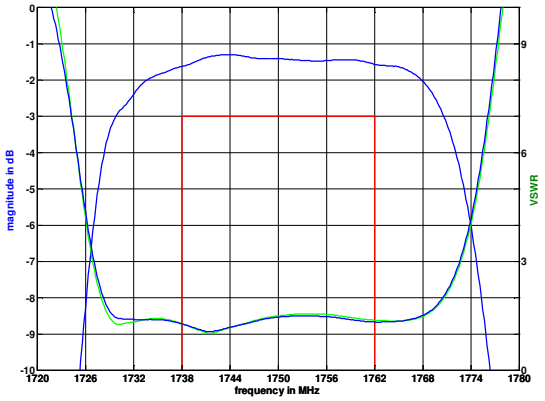
Checked / Approved:

Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

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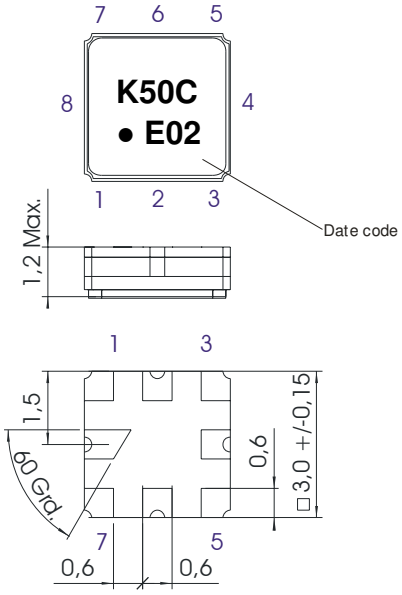
Filter characteristic





Construction and pin connection

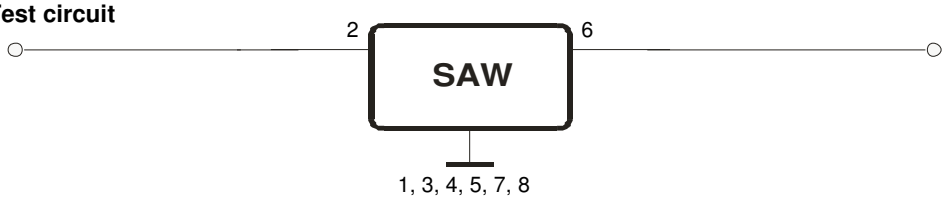
(All dimensions in mm)



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

Date code:	Year + week
E	2014
F	2015
G	2016
...	

50 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 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"

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

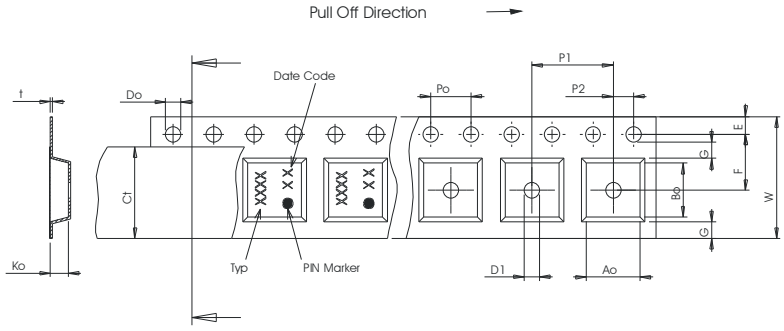
Packing

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:	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

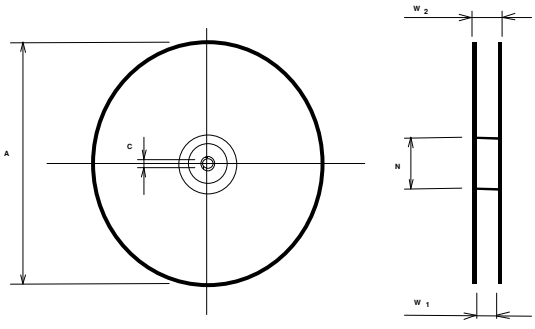
Tape (all dimensions in mm)

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.

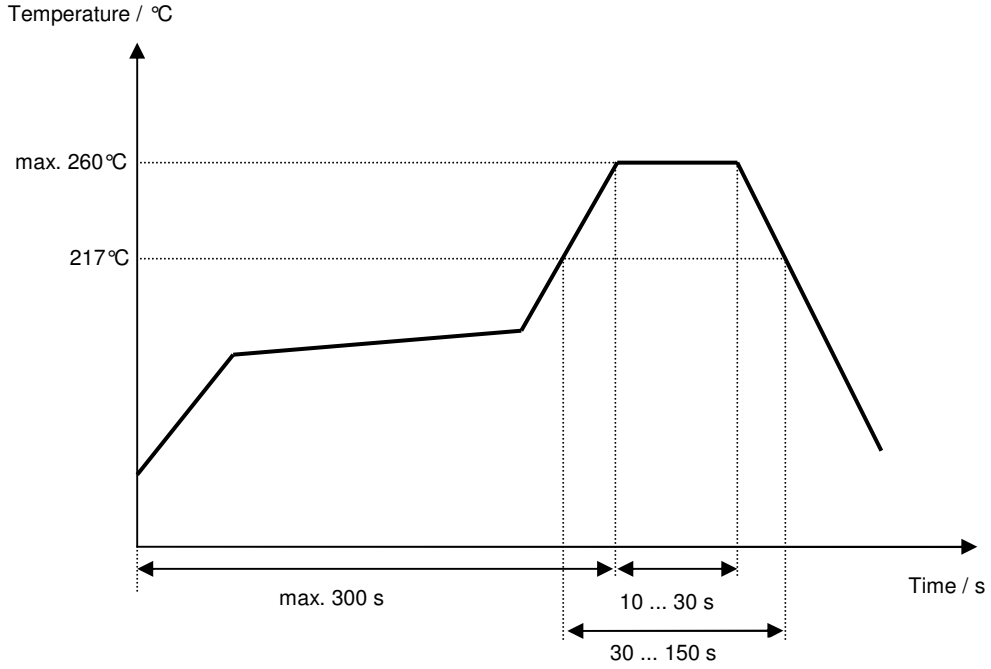
Vectron International GmbH
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30
E-Mail: tft@vectron.com

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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



Vectron International GmbH
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History

Version	Reason of Changes	Name	Date
1.0	- generation of development specification	Strehl	07.04.2006
1.1	- generation of filter spec	S.Springfeldt	01.02.2008
1.2	- maximum input power updated	Kortenbeutel	07.01.2014

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