

**VI TELEFILTER****Development specification****TFS 1842A****1/5****Measurement condition**

Ambient temperature: 23 °C  
 Input power level: 13 dBm  
 Terminating impedances  
     for input: 50 Ω (unbalanced)  
     for output: 50 Ω // 1pF (balanced)

**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 1842,5 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.

<b>D a t a</b>			<b>typ. value</b>	<b>tolerance/limit</b>	
<b>Insertion loss</b> (Reference level)	within PB		-	max.	4,3 dB
<b>Nominal frequency</b>	$f_N$		-	1842,5	MHz
<b>Centre frequency</b>	$f_C$		1842,5	MHz	
<b>Pass band</b>	PB		-	$f_N \pm$	37,5 MHz
<b>Pass-band ripple within PB</b>			-	max	2,3 dB
<b>Absolute attenuation</b>	$a_{abs}$				
0,0 MHz ...	1160,0 MHz		-	min	37 dB
1160,0 MHz ...	1430,0 MHz		-	min	30 dB
1430,0 MHz ...	1705,0 MHz		-	min	20 dB
1705,0 MHz ...	1785,0 MHz		-	min	9 dB
1920,0 MHz ...	1980,0 MHz		-	min	9 dB
1980,0 MHz ...	2100,0 MHz		-	min	20 dB
2100,0 MHz ...	6000,0 MHz		-	min	20 dB
<b>Operating temperature range</b>				- 10 °C ... + 75 °C	
<b>Storage temperature range</b>				- 40 °C ... + 85 °C	
<b>Temperature coefficient of frequency</b>	TCf	t.b.d.		-	
<b>Input power level</b>				max	5 dBm

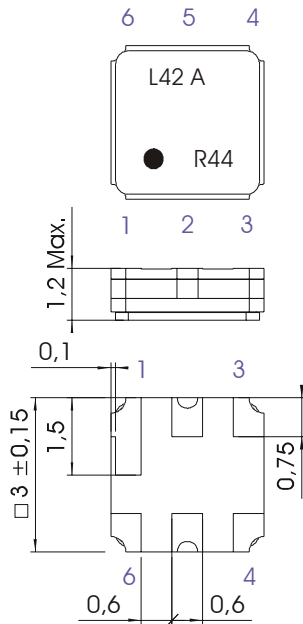
**Generated:****Checked / approved:**

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**Construction, pin configuration and 50 Ohm matching network**

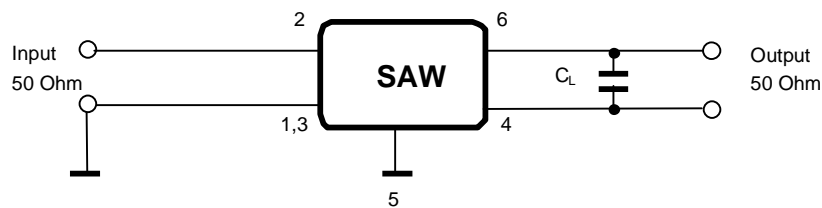
(All dimensions in mm)



Date code: Year+week

N	2001
P	2002
R	2003
	...

Pin 1	Input Ground
Pin 2	Input, unbalanced
Pin 3	Input Ground
Pin 4	Output, balanced
Pin 5	Ground
Pin 6	Output, balanced

**50 Ω matching network:**

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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 5g 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, please refer to the attached "Air reflow temperature conditions" on page 4

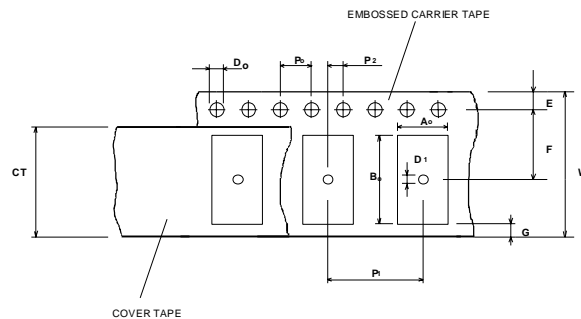
**Packing**

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

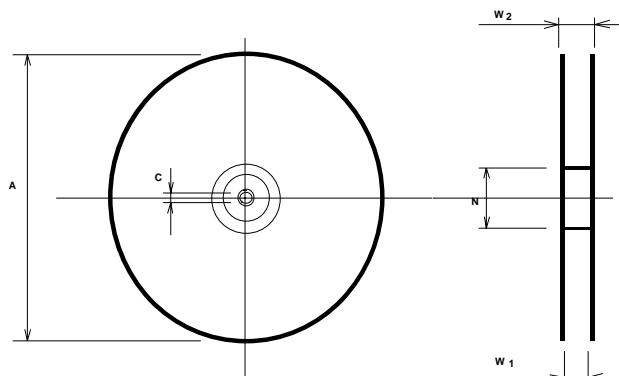
Tape (all dimensions in mm)

W	: 8 ± 0,3
Po	: 4 ± 0,1
Do	: 1,5 ± 0,1
E	: 1,75 ± 0,1
F	: 3,5 ± 0,05
G (min)	: 0,75
P2	: 2 ± 0,05
P1	: 4 ± 0,1
D1(min)	: 1,5
Ao	: 3,25 ± 0,1
Bo	: 3,25 ± 0,1
CT	: 5,5 ± 0,2



Reel (all dimensions in mm):

A	: 330
W1	: 8,4 + 2,0
W2 (max)	: 14,4
N (min)	: 50
C	: 13 +0,5/ -0,2



The minimum bending radius is 45 mm. The mounting surface of the filters faces the bottom side of the embossed carrier tape. Markings on the filters can be read if the upper side of the carrier tape is regarded with the sprocket holes on its right.

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**Air reflow temperature conditions**

1st and 2nd air reflow profile

<b>Name:</b>	pre-heating periods	main-heating periods	peak temperature
<b>Temperature:</b>	150 °C - 170 °C	over 200 °C	255 °C ± 5 °C
<b>Time:</b>	60 sec. - 90 sec.	20 sec. - 25 sec.	

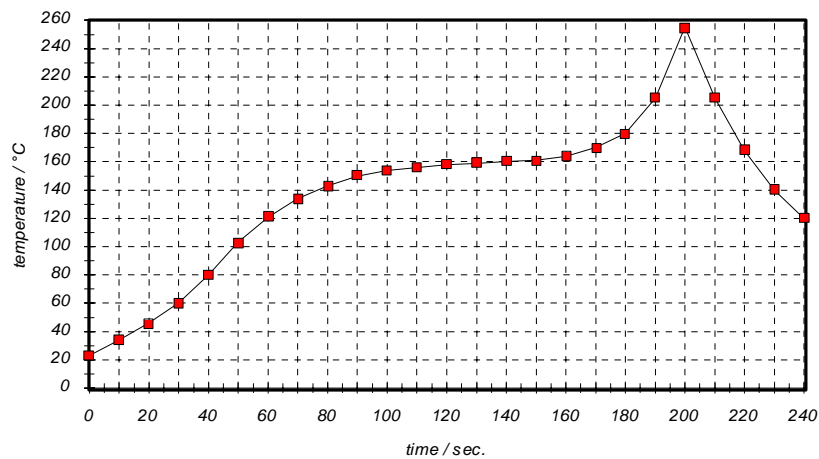
**Chip-mount air reflow profile**

Table for temperature vs. time during the air reflow process

Tolerance of temperatures: ± 5 °C

time / sec.	temperature / °C	time / sec.	temperature / °C
0	23	140	160
10	34	150	161
20	46	160	164
30	60	170	170
40	80	180	180
50	103	190	205
60	121	195	230
70	134	200	255
80	143	205	230
90	150	210	205
100	154	215	180
110	156	220	165
120	158	230	140
130	159	240	120

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**History**

<b>Version</b>	<b>Reason of Change</b>	<b>Name</b>	<b>Date</b>
1.0	generation of "Development specification" according to customer requirements	Dr. Sabah	24.07.2003
1.1	add page 2 ... 5 of specification	Konietzko	16.09.2003
1.2	change relative attenuation to absolute attenuation	Roizengaft	17.10.2003
1.3	change of package layout	Roizengaft	27.10.2003
1.4	definition of packing	Roizengaft	30.10.2003

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