

VI TELEFILTER**Preliminary specification****TFS 868B 1/5****Measurement condition**

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Terminating impedances: input: T.B.D
 output: T.B.D

Characteristics**Remark:**

Reference level for the relative attenuation a_{rel} of the TFS 868B is the minimum of the pass band attenuation a_{min} . The minimum of the pass band attenuation a_{min} is defined as the insertion loss a_e . The centre frequency f_c is the arithmetic mean value of the upper and lower frequencies at the 3 dB filter attenuation level relative to the insertion loss a_e . The nominal frequency f_N is fixed at 868,35 MHz without tolerance. The given values for the relative attenuation a_{rel} have to be reached at the frequencies given below even if the centre frequency f_c is shifted due to the temperature coefficient of frequency TC_f in the operating temperature range and due to a production tolerance for the centre frequency f_c .

D a t a	typ. value		Variation/ Limitation	
Insertion loss (Reference level)	$a_e = a_{min}$	4,3 dB	max.	5,5 dB
Nominal frequency	f_N	-		868,35 MHz
Centre frequency	f_c	868,35 MHz		
3 dB bandwidth	BW	780 kHz	min.	400 kHz
6 dB bandwidth	BW	1003 kHz	min.	600 kHz
Relative attenuation	a_{rel}			
$f_N \dots \dots f_N \pm 200,0$ kHz		max. 3		
$f_N \pm 200,0$ kHz $\dots f_N \pm 300,0$ kHz		-	max.	6 dB
$f_N - 3,19$ MHz $\dots f_N - 38,92$ MHz		-	min.	32 dB
$f_N - 38,92$ MHz $\dots f_N - 168,92$ MHz		-	min.	35 dB
$f_N - 168,92$ MHz $\dots f_N - 858,92$ MHz		-	min.	50 dB
$f_N + 2,60$ MHz $\dots f_N + 6,10$ MHz		-	min.	11 dB
$f_N + 6,10$ MHz $\dots f_N + 14,60$ MHz		-	min.	22 dB
$f_N + 14,60$ MHz $\dots f_N + 31,61$ MHz		-	min.	30 dB
$f_N + 31,60$ MHz $\dots f_N + 131,60$ MHz		-	min.	35 dB
Temperature coefficient of the frequency	$TC_f^*)$	T.B.D		
Frequency inversion temperature	$T_o)$	T.B.D		
Operating temperature range			- 25 °C ... + 80 °C	
Storage temperature range			- 25 °C ... + 80 °C	
Input power level			max.	0 dBm

*) $\Delta f_c(\text{Hz}) = TC_f(\text{ppm/K}^2) \times (T_o - T_a)^2 \times f_{CAT}(\text{MHz})$

Generated :

Checked / approved :

VI TELEFILTER

Potsdamer Straße 18

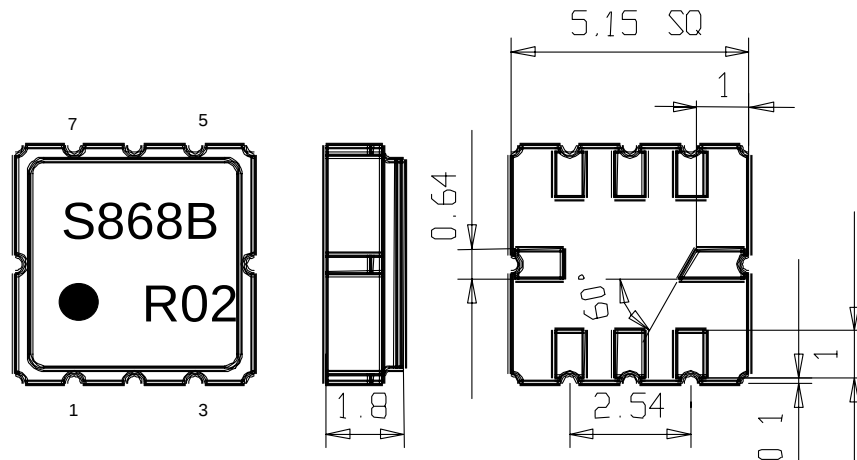
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VI TELEFILTER**Preliminary specification****TFS 868B 2/5****Construction and pin configuration**

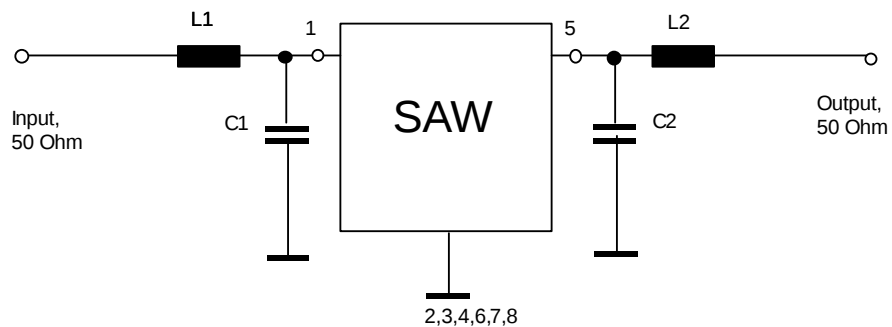
(All dimensions in mm)



Pin 1 Input
 Pin 2 Input RF Return
 Pin 3 Ground
 Pin 4 Ground

Pin 5 Output
 Pin 6 Output RF Return
 Pin 7 Ground
 Pin 8 Ground

Datecode: Year+week
 N 2001
 P 2002
 R 2003

50 Ohm Test circuit**VI TELEFILTER****Potsdamer Straße 18****D 14 513 TELTOW / Germany****Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30****E-Mail: tft@telefilter.com**

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VI TELEFILTER**Preliminary specification****TFS 868B 3/5****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: DIN 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;

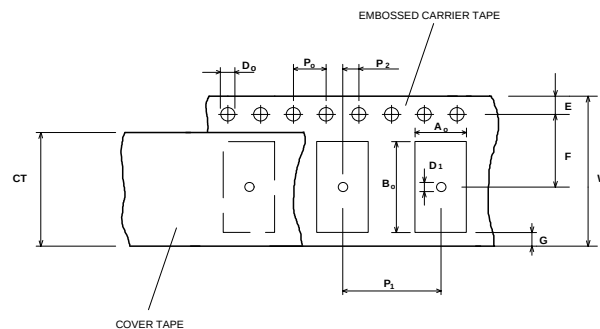
max. pieces of filters per reel:
reel of empty components at start:
reel of empty components at start including leader:
trailer

3000
min 300 mm
min 500 mm
min 300

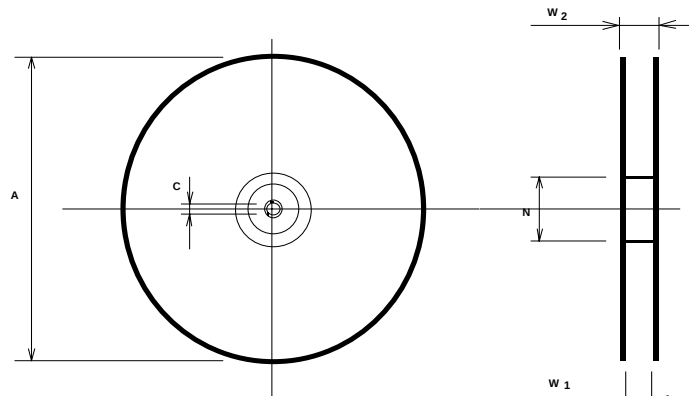
mm

Tape (all dimensions in mm)

W	: 12 ± 0,3
Po	: 4 ± 0,1
Do	: 1,5 ± 0,1
E	: 1,75 ± 0,1
F	: 5,5 ± 0,05
G (min)	: 0,75
P2	: 2 ± 0,05
P1	: 8 ± 0,1
D1(min)	: 1,5
Ao	: 5,3 ± 0,1
Bo	: 5,3 ± 0,1
CT	: 9,5 ± 0,1

**Reel (all dimensions in mm):**

A	: 330
W1	: 12,4 + 2
W2 (max)	: 18,4
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

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

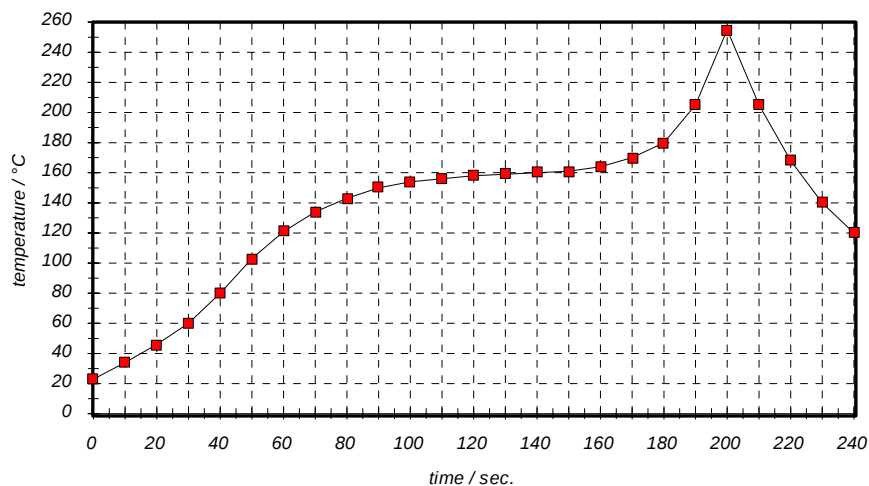
Chip-mount air reflow profile

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

VI TELE FILTER**Preliminary Specification****TFS 868B - 5/5**

History

Version	Reason of Changes	Name	Date
1.0	- generation of preliminary specification	Dr. Sabah	07.01.2002
1.1	- add of typ. values and matching circuit	Dr. Sabah	13.01.2003

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