

VI TELEFILTER**Filter Specification****TFS 248 C****1/4****Measurement condition**

Ambient temperature: 23 °C

Input power level: 0 dBm

Terminating impedance:

input: 63 Ω // -1.65 pF source: 50 Ω unbalanced and matching network

output: 63 Ω // -0.4 pF load: 200 Ω balanced and matching network

Construction and pin connection

see page 2

Characteristics

Remark:

Reference level for the relative attenuation a_{rel} of the TFS 248 C 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 nominal frequency f_N is fixed to 248,6 MHz. The given values for the relative attenuation a_{rel} and for the group delay ripple have to be reached at the frequencies given below also if the centre frequency f_0 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_0 .

D a t a		typ. Value	Limit
Insertion Loss (Reference Level)	$a_e = a_{min}$	1,9 dB	3,5 dB
Nominal Frequency	f_N	-	248,6 MHz
Centre Frequency	f_C	248,6 MHz	-
3 dB Band width		6.6 MHz	5 MHz
Pass Band Ripple $f_N \pm 120$ kHz		0.05 dB	0,5 dB

Relative Attenuation a_{rel}

0,1 MHz ... $f_N - 12$ MHz	-	35-80 dB	min. 25 dB
$f_N + 10$ MHz ... $f_N + 21$ MHz		18-40 dB	min. 10 dB
$f_N + 21$ MHz ... 500 MHz		40-60 dB	min. 25 dB

Group Delay	GD	150 ns	max 300 ns
Group Delay Ripple $f_N \pm 120$ kHz		10 ns	max 100 ns

Input Power Level			max. 12 dBm
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Operating Temperature Range	- 25 °C ... + 75 °C
Storage Temperature Range	- 40 °C ... + 85 °C

Temperature Coefficient	TC	- 36 ppm	-
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generated: _____

checked / approved: _____

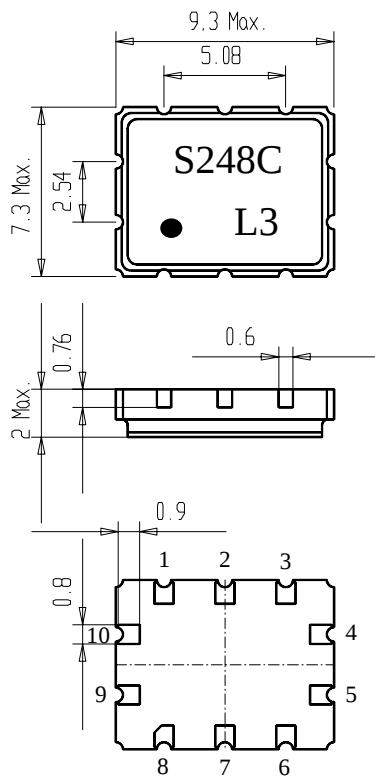
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Construction and Pin Connection

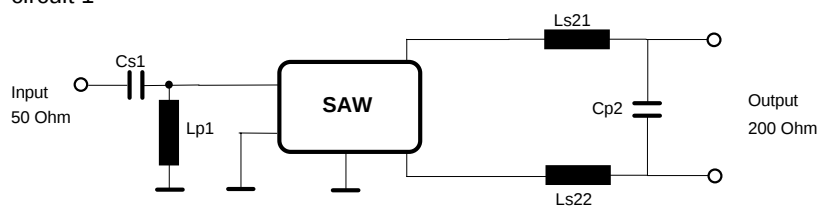
(All dimensions in mm)



- | | |
|----|---------------|
| 1 | Input |
| 2 | Input ground |
| 3 | Not connected |
| 4 | Case ground |
| 5 | Case ground |
| 6 | Output |
| 7 | Output |
| 8 | Not connected |
| 9 | Case ground |
| 10 | Case ground |

Possible matching circuits

circuit 1



VI TELEFILTER**Filter Specification****TFS 248 C****3/4****Stability characteristics**

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

1. Shock: 30g, 18 ms, half sine wave, 3 shocks each plane;
DIN IEC 68 T2 - 27
2. Vibration: 10 Hz to 150 Hz, 0.35 mm amplitude, 5g; 2 hours for 3 planes;
DIN IEC 68 T2 - 6
3. Damp heat: 90 % to 95 % rel. humidity, 40 °C, 10 days;
IEC Pub. 68 - 2 - 3
4. Resistance to solder heat (Reflow): 260 °C for 10 sec;

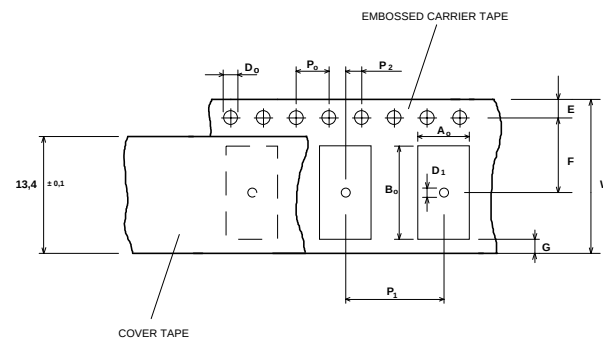
Packing

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;

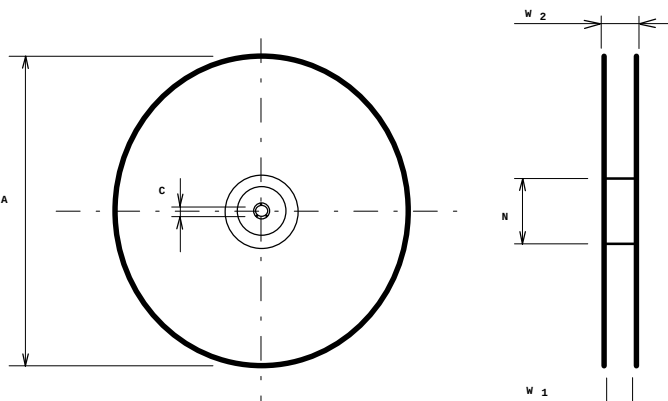
pcs per reel: 2000

Tape (all dimensions in mm)

W	: 16	± 0,3
Po	: 4	± 0,1
Do	: 1,5	+ 0,5
D1	: 1,5	+ 0,5
E	: 1,75	± 0,1
F	: 7,5	± 0,1
G (min)	: 0,75	
P2	: 2	± 0,1
P1	: 12	± 0,1
D1(min)	: 1,5	
Ao	: 7,6	± 0,1
Bo	: 9,6	± 0,1

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

A	:	330
W1	:	16,4 +2
W2 (max)	:	22,4
N (min)	:	>= 90
C	:	13 ± 0,25



The minimum bending radius is 45 mm. The mounting surface of the filters faces the bottom side of the embossed carrier tape. The marking of the filters is able to read if the view is directed on the upper side of the carrier tape with the sprocket holes on the right side of the tape.

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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

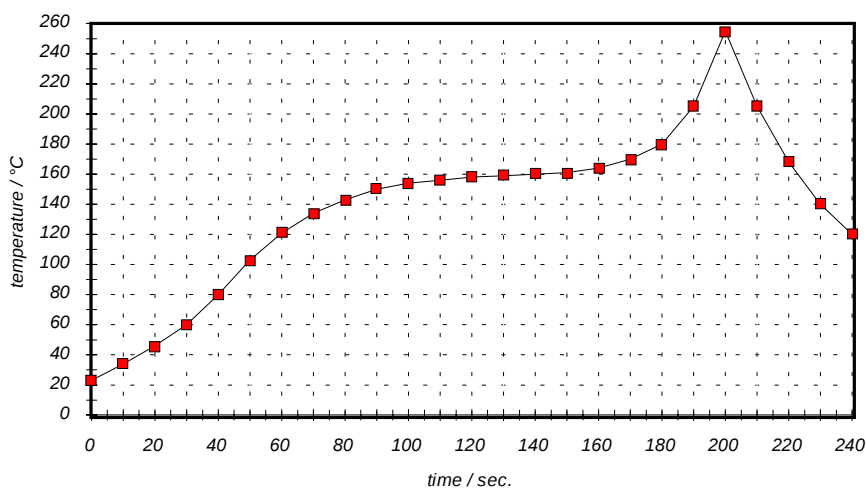


Table for temperature vs. time during the air reflow process

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