

Measurement condition

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Source impedance: 670 Ω || -3,0 pF
 Load impedance: 670 Ω || -3,0 pF
 Ext.coil: 100 nH

Construction and pin connection

see page 2

Characteristics

Remark:

Reference level for the relative attenuation a_{rel} of the TFS 246D 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_o 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 .

Preliminary Data		typ. value		tolerance / limit	
Insertion loss (Reference level)	$a_e = a_{min}$	3,2	dB	max 5	dB
Center frequency	f_o	246,0	MHz	-	
Relative attenuation	a_{rel}				
246,0 MHz ± 100	kHz			max 3	dB
246,0 MHz ± 400	kHz ... 246,0 MHz ± 600	30	kHz	min 25	dB
246,0 MHz ± 600	kHz ... 246,0 MHz ± 800	40	kHz	min 36	dB
246,0 MHz ± 800	kHz ... 246,0 MHz ± 1,6	50	MHz	min 45	dB
246,0 MHz - 1,6	MHz ... 246,0 MHz - 25	57	MHz	min 50	dB
246,0 MHz + 1,6	MHz ... 246,0 MHz + 15	48	MHz	min 45	dB
246,0 MHz + 15	MHz ... 246,0 MHz + 25	55	MHz	min 50	dB
Group delay distortion	GDD				
246,0 MHz ± 70	kHz	1	μs	max 1,5	μs
Operating temperature range		- 25 °C ... + 85 °C			
Storage temperature range		- 30 °C ... + 85 °C			
Temperature coefficient of frequency	TC	ca. - 0,036 ppm/K ²			
Frequency inversion temperature		+ 25°C			

generated: _____

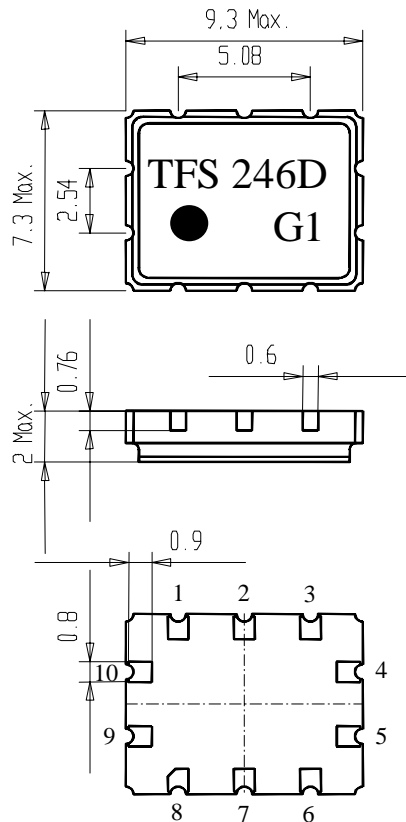
checked / approved: _____

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Construction and pin connection

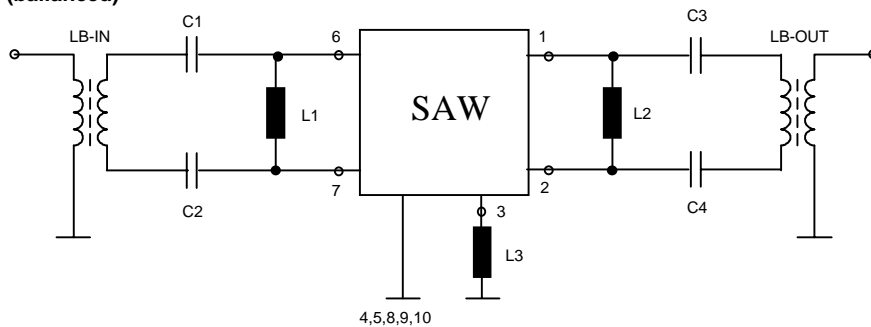
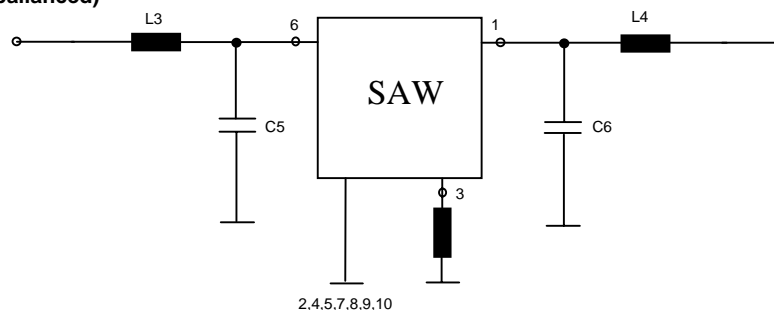


Pinning - ballanced

1 Output	6 Input
2 Output	7 Input
3 Ext.coil	8 Ground
4 Ground	9 Ground
5 Ground	10 Ground

Pinning - unballanced

1 Output	6 Input
2 RF Return	7 RF-Return
3 Ext.coil	8 Ground
4 Ground	9 Ground
5 Ground	10 Ground

50 Ω test circuit (ballanced)50 Ω test circuit (unballanced)

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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. Damp heat: 25 °C to 55°C / 95% r.H. / 10 cycles
(cycle) DIN IEC 68 - 2 – 30 Db
4. Resistance to solder heat (reflow): max. 2 times reflow process;
for temperature conditions refer to the attached "Air reflow temperature conditions" on sheet 4;

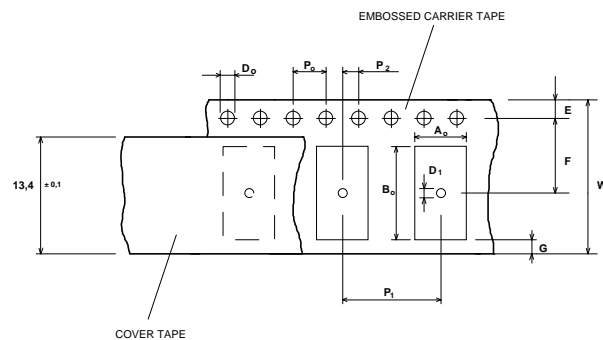
Packing

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: 2300

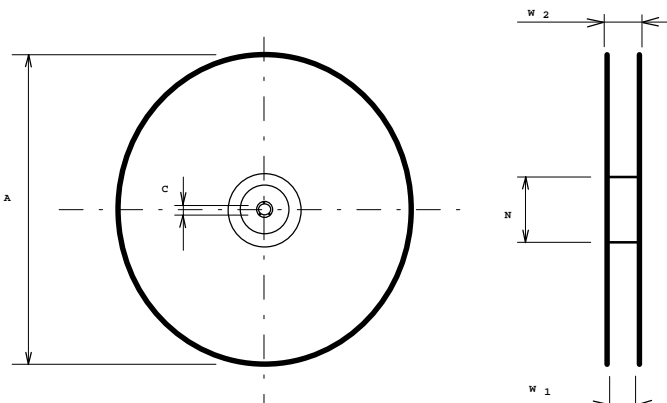
Tape (all dimensions in mm)

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

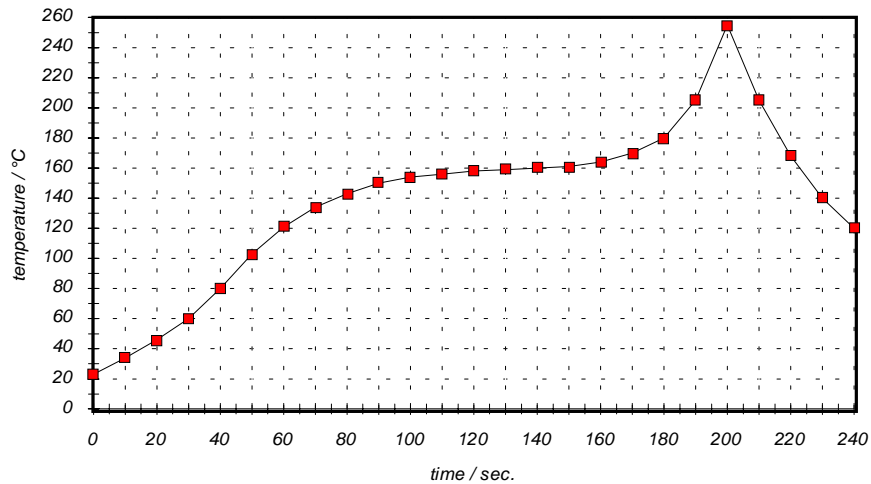


Table for temperature vs. time during the air reflow process

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

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