

VI TELEFILTER**Filter specification****TFS 70 G - Page 1 / 3****Measurement condition**

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Source impedance: 50 Ω and test adapter
 Load impedance: 50 Ω and test adapter

Characteristics**Remark:**

Reference level for the relative attenuation a_{rel} of the TFS 70 G 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 3dB filter attenuation level relative to the insertion loss a_e . The nominal frequency f_N is fixed on 70,00 MHz without tolerance. 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_o 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_o .

D a t a		typ. value		tolerance / limit	
Insertion loss (Reference level)	a_e			22	dB
Nominal frequency	f_N	-		70,0	MHz
Centre frequency	f_o	70,0	MHz		
Pass band		-		$f_N - 100 \text{ kHz} \dots f_N + 100 \text{ kHz}$	
Relative attenuation	a_{rel}				
$f_N \pm 40 \text{ MHz} \dots f_N \pm 57 \text{ MHz}$		-		min. 45	dB
$f_N \pm 83 \text{ MHz} \dots f_N \pm 100 \text{ MHz}$		-		min 45	dB
Group delay	GD				
Absolute delay	$f_N - 65 \text{ MHz} \dots f_N + 75 \text{ MHz}$	2	µs	max	2,15 µs
Temperature coefficient of frequency	TC_f *)	- 72	ppm/K ²	-	
Frequency inversion temperature	T_o	- 5	°C	-	
Operating temperature range				- 20 °C ... + 85 °C	
Storage temperature range				- 40 °C ... + 85 °C	
Permissible DC voltage	V_{DC}	-		12	V
Permissible AC voltage	V_{pp}	-		10	V

*) $\Delta f(\text{Hz}) = TC_f(\text{ppm/K}^2) \times (\Delta T)^2 \times f_{T0}(\text{MHz})$

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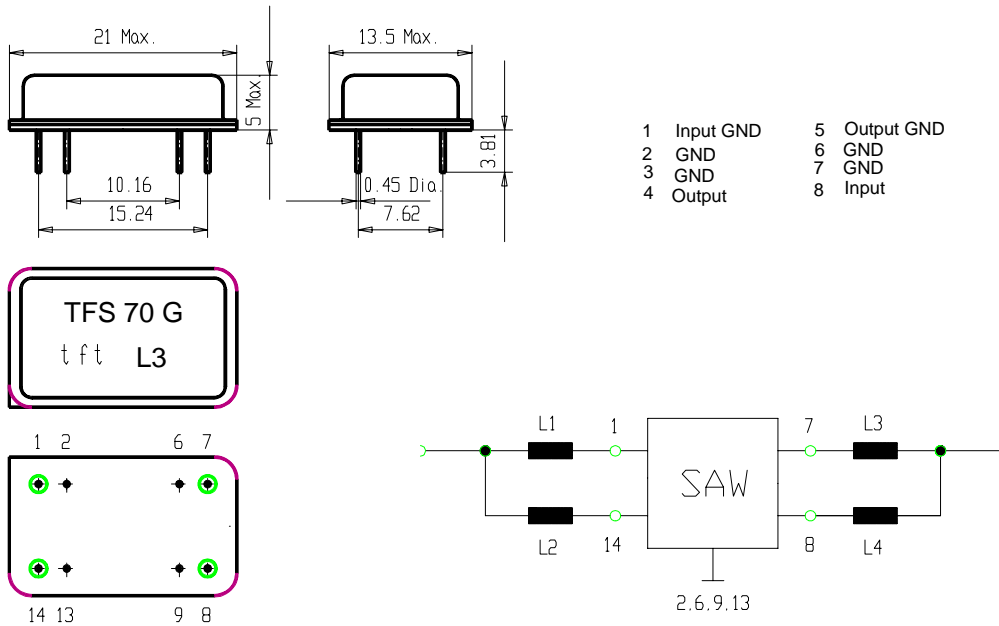
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Construction, pin connection and 50 Ω matching network

(All dimensions in mm)



L1 = 495 nH

L3 = 510 nH

L2 = 375 nH

L4 = 395 nH

Air reflow temperature conditions

1st and 2nd air reflow profile

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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

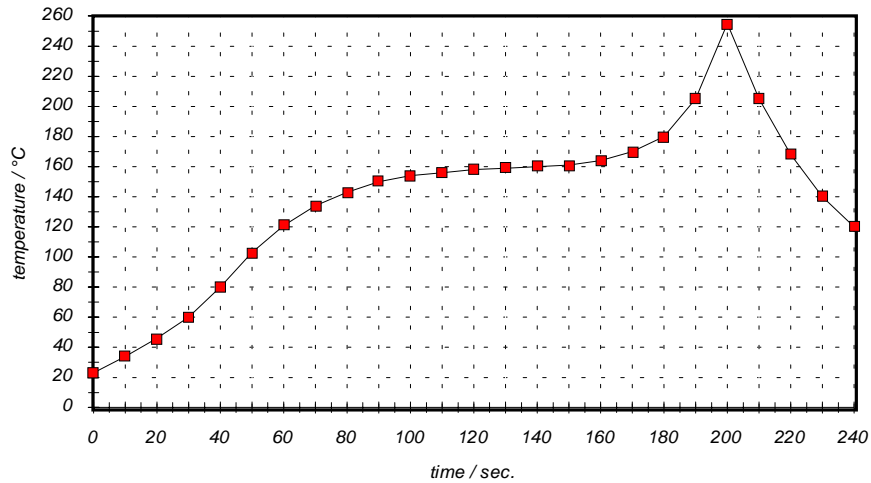


Table for temperature vs. time during the air reflow process

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