

VI TELEFILTER**Filter specification****TFS 80 A - Page 1 / 3****Measurement condition**

Ambient temperature: 23 °C
 Input power level: 0 dBm
 Termination impedance:
 Input: 110 Ω || - 18 pF
 Output: 50 Ω || - 13 pF

Characteristics**Remark:**

Reference level for the relative attenuation a_{rel} of the TFS 80 A 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_0 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 80,0 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_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	tolerance / limit	
Insertion loss (Reference level)	a_e	-	max. 16,5	dB
Nominal frequency	f_N	-	80,0	MHz
Pass band		-	$f_N - 100 \text{ kHz} \dots f_N + 100 \text{ kHz}$	
Relative attenuation	a_{rel}			
$f_N - 100 \text{ kHz} \dots f_N + 100 \text{ kHz}$		-	max 1	dB
$f_N \pm 500 \text{ kHz}$		-	min 35	dB
$f_N \pm 600 \text{ kHz}$		-	min 40	dB
$f_N \pm 700 \text{ kHz}$		-	min 45	dB
$f_N \pm 1000 \text{ kHz}$		-	min 50	dB
$f_N \pm 5000 \text{ kHz} \dots f_N \pm 25 \text{ MHz}$		-	min 55	dB
Group delay	GD			
Absolute delay	$f_N - 100 \text{ kHz} \dots f_N + 100 \text{ kHz}$	4,55 μs	max 4,85	μs
Ripple	$f_N - 100 \text{ kHz} \dots f_N + 100 \text{ kHz}$	-	max 600	ns
Impedance	Z			
Source impedance		110 Ω - 18 pF	-	
Load impedance		280 Ω - 13 pF	-	
Temperature coefficient of frequency	TC_f *)	- 0,045 ppm/K ²	-	
Frequency inversion temperature	T_0	23 °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

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

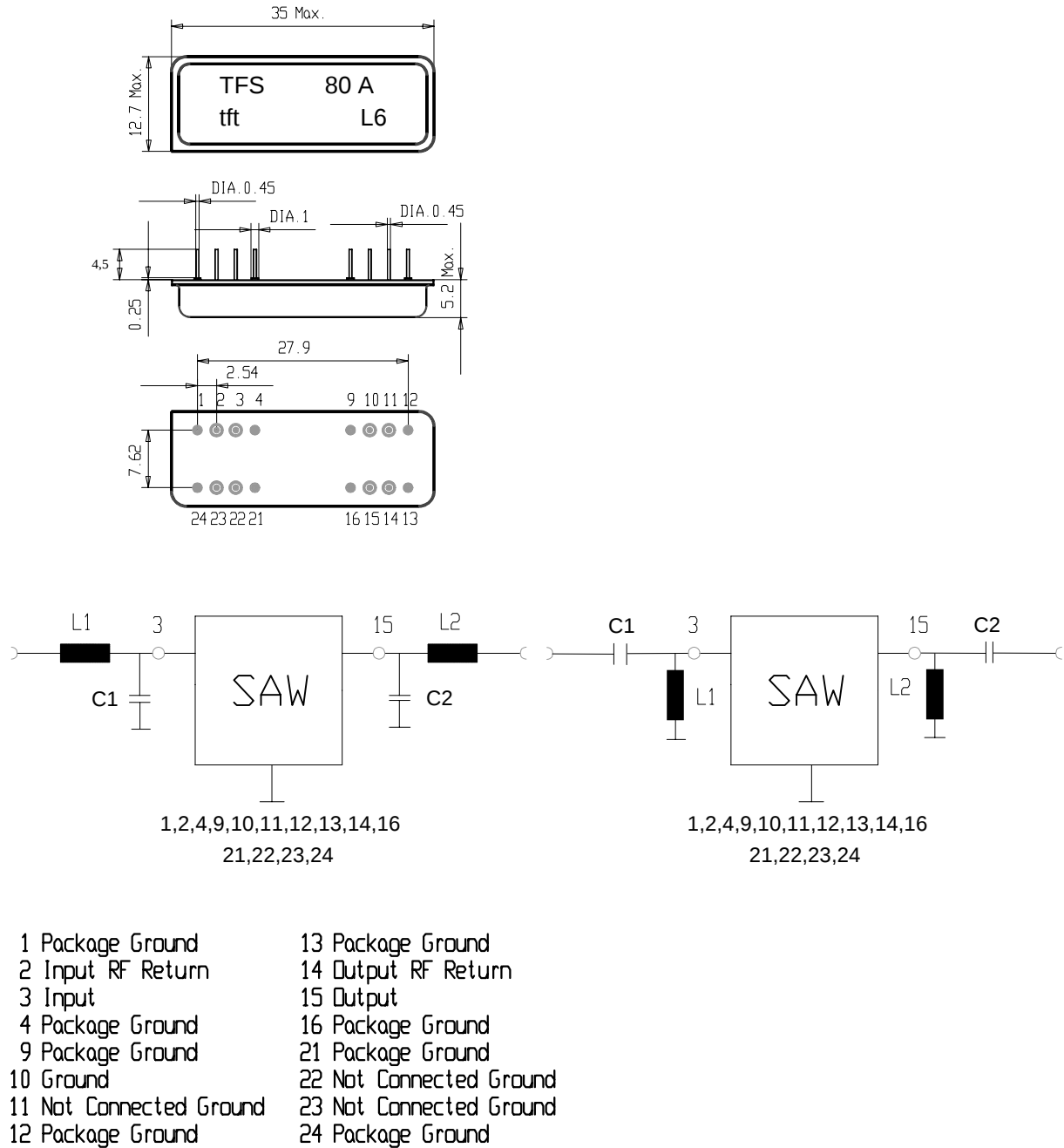
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Construction, pin connection and 50 Ω matching network

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

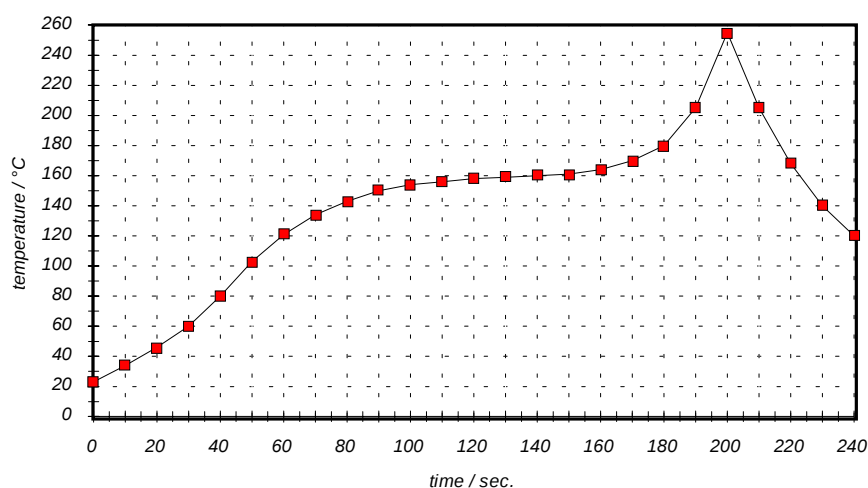


Table for temperature vs. time during the air reflow process

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