1. Measurement condition :

Ambient temperature T_A:	23 °C	
Input power level:	0 dBm	
Terminating impedances at f_C:	for input:	450 Ω | - 13,2 pF.
	for output:	390 Ω | - 13,5 pF.
Q-value of matching elements:	> 50	

2. Characteristics :

Remark:
Reference level for the relative attenuation a_{rel} of the **TFS71C** 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 reference 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 temperature coefficient of frequency Tc_f is valid both for the reference frequency f_C and the frequency response of the filter in the operating temperature range. The frequency shift of the filter in the operating temperature range is not included in the production tolerance scheme.

Data		**typ. value**		**tolerance / limit**		
Insertion loss (Reference level)	a_e	6,6	dB	max.	7,6	dB
Reference frequency f_C at ambient temperature (f_{CTA})		71,0	MHz	71,0 ±	0,015	MHz
Bandwidth at ambient temperature**:**						
1 dB - band width		170	kHz	min.	130	kHz
1,5 dB - band width		215	kHz	min.	165	kHz
3 dB - band width		300	kHz			
4 dB - band width		350	kHz	max.	400	kHz
20 dB - band width		700	kHz	max.	800	kHz
25 dB - band width		740	kHz	max.	1200	kHz
35 dB - band width		2000	kHz	max.	3200	kHz
Relative attenuation	a_{rel}					
f_C ... f_C ± 65	kHz	0,7	dB	max.	1,0	dB
f_C ± 65 kHz ... f_C ± 82,5	kHz	1	dB	max.	1,5	dB
f_C ± 200 kHz ... f_C ± 400	kHz	5	dB	min.	4	dB
f_C ± 400 kHz ... f_C ± 800	kHz	25	dB	min.	20	dB
f_C ± 800 kHz ... f_C ± 1200	kHz	28...35	dB	min.	25	dB
f_C ± 1200 kHz ... f_C ± 10	MHz	40...50	dB	min.	35	dB
Group delay (mean value in :	f_C ... f_C ± 80 kHz	2,05	µs	max.	2,5	µs
Group delay ripple in :	f_C ... f_C ± 80 kHz	150	ns	max.	300	ns
Deviation from linear phase in :	f_C ... f_C ± 80 kHz	2° p-p..(0,5 ° r.m.s.)				
Triple transit attenuation compared to main signal		35...40	dB			
Crosstalk		> 40	dB			
Frequency inversion temperature (T_o)		T. B. M.				
Temperature coefficient of frequency (Tc_f)		-0,045	ppm/K²			
Frequency deviation of f_C over temperature: *)		Δf_C(Hz) = Tc_f(ppm/K) x (T - T_o)² x f_{To} (MHz)				
Operating temperature range				- 25 °C ... + 80 °C		
Storage temperature range				- 40 °C ... + 85 °C		
Input power level		-		max.	10	dBm
Permissible DC voltage Vdc		-			12	V
Permissible AC voltage Vac		-			10	V

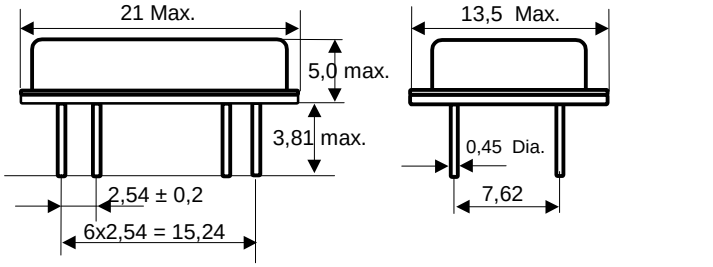
Generated: Dunzow W.P.

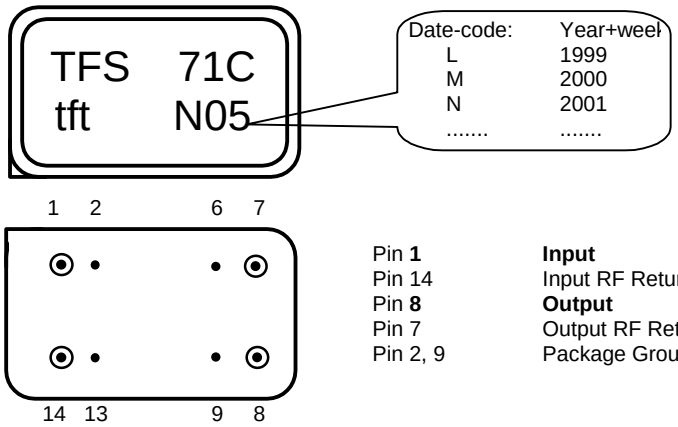
Checked/Approved: Dr. Bert Wall

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

Vectron International, Inc.
267 Lowell Road
Hudson, NH 03051 / USA
Tel: (603) 598-0070 Fax: (603) 598-0075
E-Mail: vti@vtinh.com

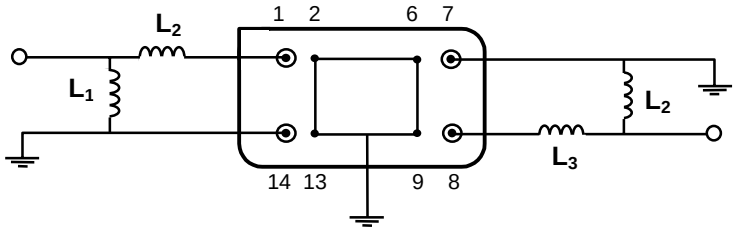
3. Package and pin connection : (All dimensions in mm)





Pin **1**	**Input**
Pin 14	Input RF Return
Pin **8**	**Output**
Pin 7	Output RF Return
Pin 2, 9	Package Ground

4. 50 Ω - Matching network :



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E-Mail: vti@vtinh.com

5. 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.	

Air reflow profile

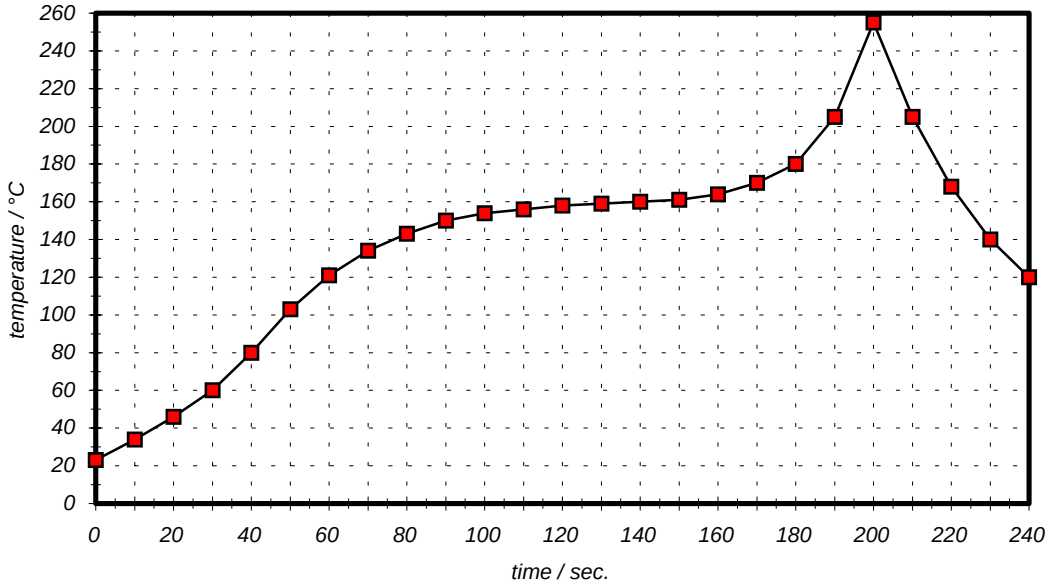

Table for temperature vs. time during the air reflow process

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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History :

Version	Reason of Changes	Name	Date
1.1	Generate filter specification in actual format. - add termination impedances.	Dunzow W.	27.02.2001

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