

VI TELEFILTER**Resonator Specification****TFR 433 H - 1/5****Measurement condition**

Ambient temperature: 23 °C
 Input power level: 10 dBm
 Terminating impedances
 for input: 50 Ω || 0 pF
 for output: 50 Ω || 0 pF

Characteristics**Remark:**

The minimum of the pass band attenuation a_{min} is defined as the insertion loss a_e . The centre frequency f_0 is the frequency of the minimum of the passband attenuation a_{min} . The tolerance for the resonant frequency also includes a centre frequency shift due to the temperature coefficient of frequency TC_f in the operating temperature range and a production tolerance for the resonant frequency f_R .

Data		typ. value	tolerance/limit
Insertion loss (Reference level)	$a_e = a_{min}$	1,2 dB	max. 1,8 dB
Resonant frequency	f_R	433,420 MHz	± 75 kHz
Parallel capacitance	C_0	2,5 pF	
Motional resistance	R_1	14,5 Ω	
Motional inductance	L_1	94,8 μH	
Motional capacitance	C_1	1,4 fF	
Operating temperature range			- 10..... + 70 °C
Storage temperature range			- 30..... + 85 °C
Frequency change with temperature between -10 °C...+ 70 °C		95 ppm/K	
Phase	φ		-20 + 20 °

Generated:**Checked / approved:**

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

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

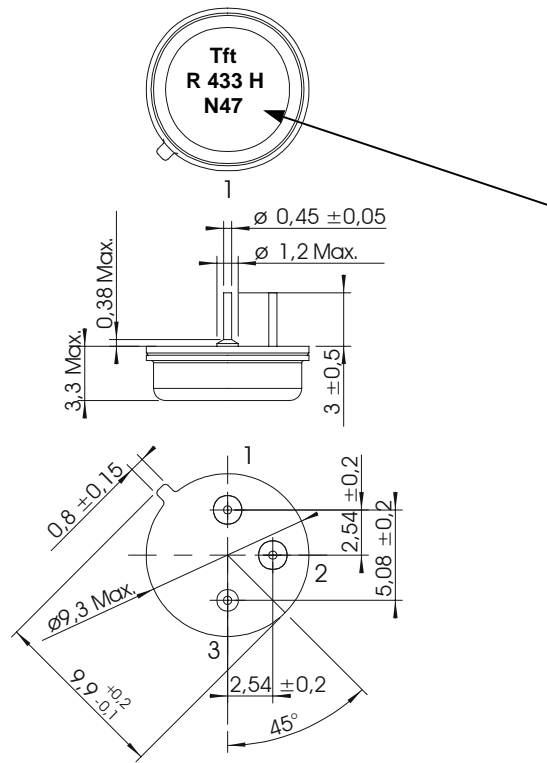
VI TELEFILTER

Resonator Specification

TFR 433 H - 2/5

Construction, pin configuration and 50 Ω - matching network

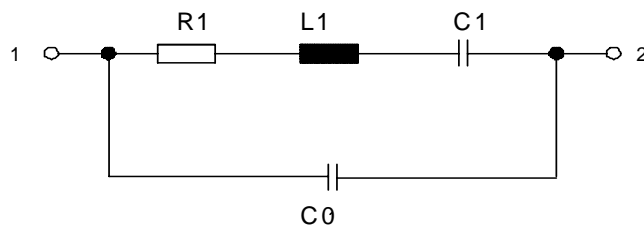
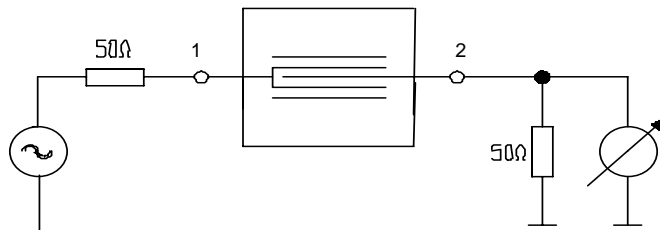
(All dimensions in mm)



Datecode:	Year+week
L	1999
M	2000
N	2001
...	

- pin 1 input
- pin 2 output
- pin 3 package ground

50 Ohm test circuit



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

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

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. Change of temperature: -55 °C to 125°C / 30 min. each / 10 cycles
DIN IEC 68 part 2 – 14 Test N
4. Resistance to solder heat (reflow): max. 2 times reflow process;
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

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

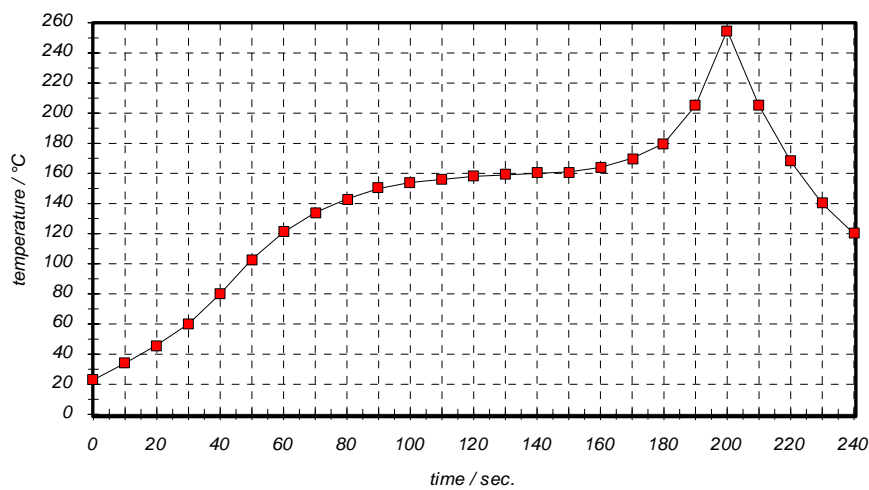


Table for temperature vs. time during the air reflow process

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

VI TELEFILTER**Resonator Specification****TFR 433 H - 5/5**

History

version	reason of changes	name	date
1.0	generate specification	Pfeiffer	21.11.2001

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

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.