

**VI TELEFILTER**

**Development specification**

**TFS1150 A**

**1/5**

**Measurement condition**

Ambient temperature:	23	°C
Input power level:	0	dBm
Terminating impedance:		
Input:	100	Ω
Output:	100	Ω

**Characteristics**

**Remark:**

The Reference level for the relative attenuation  $a_{rel}$  of the TFS1150A is the minimum attenuation in the pass band. The minimum attenuation in the pass band is defined as the insertion loss  $a_e$ . The nominal frequency  $f_N$  is fixed at 1150 MHz without tolerance or limit. The values of relative attenuation  $a_{rel}$  are guaranteed in the whole operating temperature range. The frequency shift of the filter in the operating temperature range is included in the production tolerance scheme.

<b>D a t a</b>			<b>typ. value</b>	<b>tolerance / limit</b>	
<b>Insertion loss</b>	$a_e$		-	max.	2,7 dB
<b>Nominal frequency</b>	$f_N$		-		1150 MHz
<b>Passband</b>			-	$f_N \pm$	5 MHz
<b>Relative attenuation</b>	$a_{rel}$				
$f_N - 5$ MHz ... $f_N + 5$ MHz			-	max.	1 dB
$f_N - 8$ MHz ... $f_N + 8$ MHz			-	max.	3 dB
<b>Absolute attenuation</b>	$a_{abs}$				
0 MHz ... 1100 MHz			-	min.	50 dB
1100 MHz ... 1120 MHz			-	min.	35 dB
1120 MHz ... 1130 MHz			-	min.	15 dB
1170 MHz ... 1180 MHz (0...+ 80°C)			-	min.	15 dB
1180 MHz ... 1190 MHz			-	min.	35 dB
1190 MHz ... 1900 MHz			-	min.	50 dB
<b>Group delay</b>	at $f_N$		-		100 ns
<b>Group delay ripple within PB</b>			-		35 ns
<b>Operating temperature range</b>	OTR		-	- 40 °C ... + 85 °C	
<b>Storage temperature range</b>			-	- 40 °C ... + 85 °C	
<b>Temperature coefficient of frequency</b>	$TC_f$ **		T.B.D	ppm/K	-

\*\* )  $\Delta f_C(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_0) \times f_{CAT}(\text{MHz})$ .

**Generated:** \_\_\_\_\_

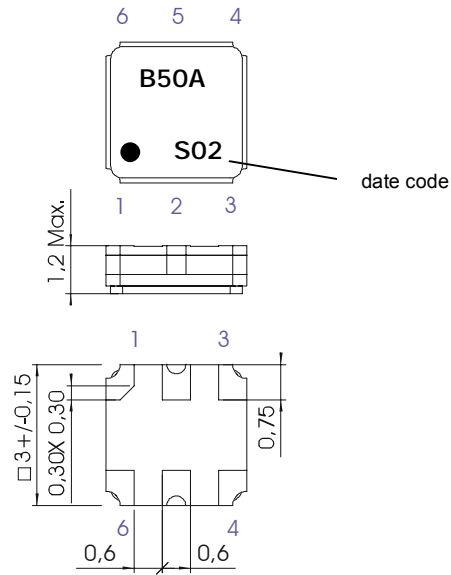
**Checked / Approved:** \_\_\_\_\_

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**Construction and pin configuration**

(All dimensions in mm)



Date code: Year+week

S	2004
T	2005
U	2006
...	

Pin 1	Input
Pin 2	Input
Pin 3	Ground
Pin 4	Output
Pin 5	Output
Pin 6	Ground

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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. 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): reflow possible: twice max.;  
for temperature conditions, please refer to the attached "Air reflow temperature conditions" on page 4;

**Packing**

Tape & Reel: **T.B.D**

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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**

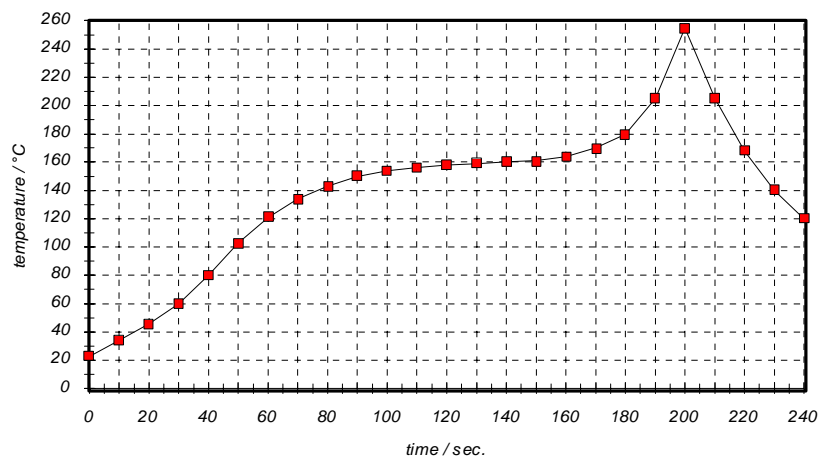


Table for temperature vs. time during the air reflow process

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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**VI TELEFILTER****Development specification****TFS1150 A****5/5****History**

<b>Version</b>	<b>Reason of Changes</b>	<b>Name</b>	<b>Date</b>
1.0	- Generation of development specification	Konietzko	19.09.2003
1.1	- Package drawing corrected. - Marking changed.	Wall	24.09.2003
1.2	- Change of $f_N \pm 8$ MHz specification, change of temperature range (1170 MHz – 1180 MHz)	Roizengaft	16.12.2003
1.3	- Change of package	Roizengaft	06.01.2004
1.4	- Change of passband from $\pm 8$ to $\pm 5$ MHz	Roizengaft	06.01.2004

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