



# SAW Components

Data Sheet B7840





**SAW Components**

**B7840**

**Low-Loss Filter**

**1575,42 MHz**

**Data Sheet**

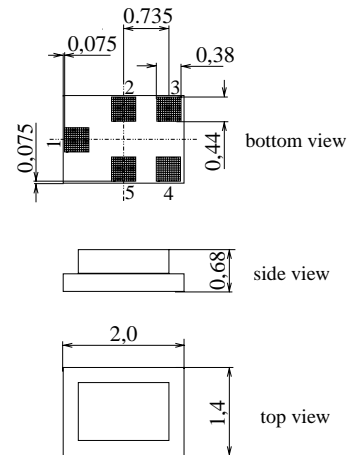
**Chip Sized SAW Package**

**Features**

- Low loss RF filter for GPS receivers
- Unbalanced to balanced operation
- Low amplitude ripple
- Impedance transformation from 50 Ω to 100 Ω
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

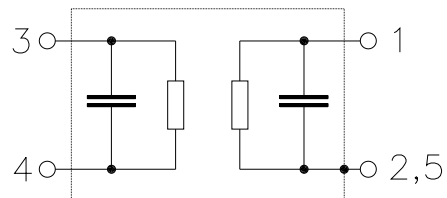
- Ni, gold-plated



Dimensions 2,0x1,4 mm<sup>2</sup>, approx. weight 0,007 g

**Pin configuration**

- |      |                   |
|------|-------------------|
| 1    | Input, unbalanced |
| 3, 4 | Output, balanced  |
| 2, 5 | Case ground       |



Type	Ordering code	Marking and Package according to	Packing according to
B7840	B39162-B7840-C710	C61157-A7-A82	F61074-V8151-Z000

**Electrostatic Sensitive Device (ESD)**

**Maximum ratings**

Operable temperature range	$T$	- 40/+ 85	°C	824...1525, 1710...2500 MHz elsewhere
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	3	V	
Source power		10		
source 50 Ω, load 100 Ω	$P_s$	5	dBm	



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**Characteristics**

Operating temperature range:  $T_A = -30 \dots +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega \text{ unbal.}$   
 Terminating load impedance:  $Z_L = 100 \text{ } \Omega \text{ bal.}$

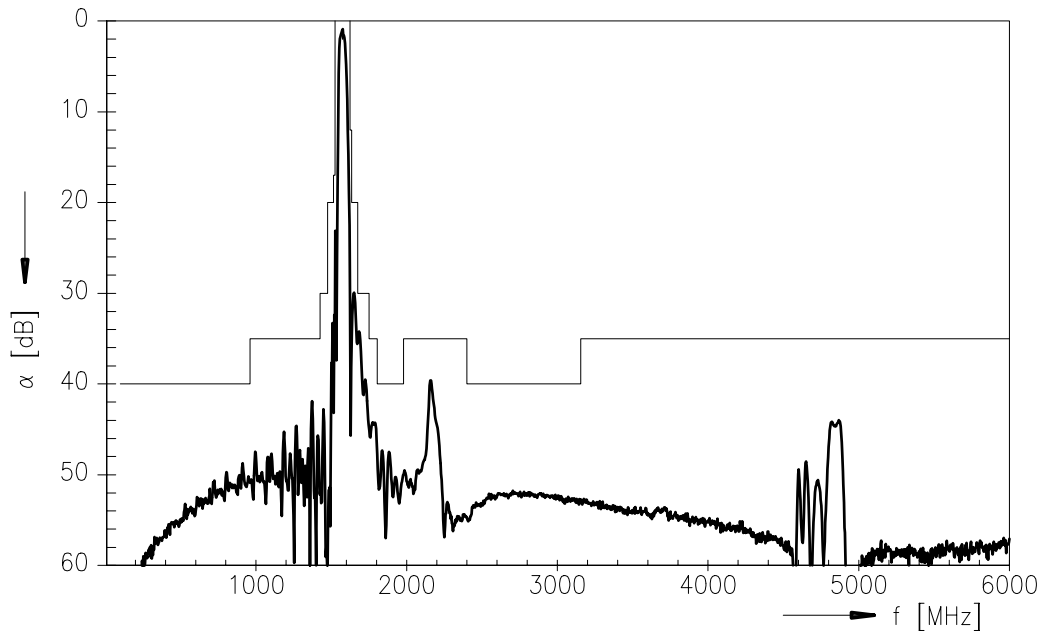
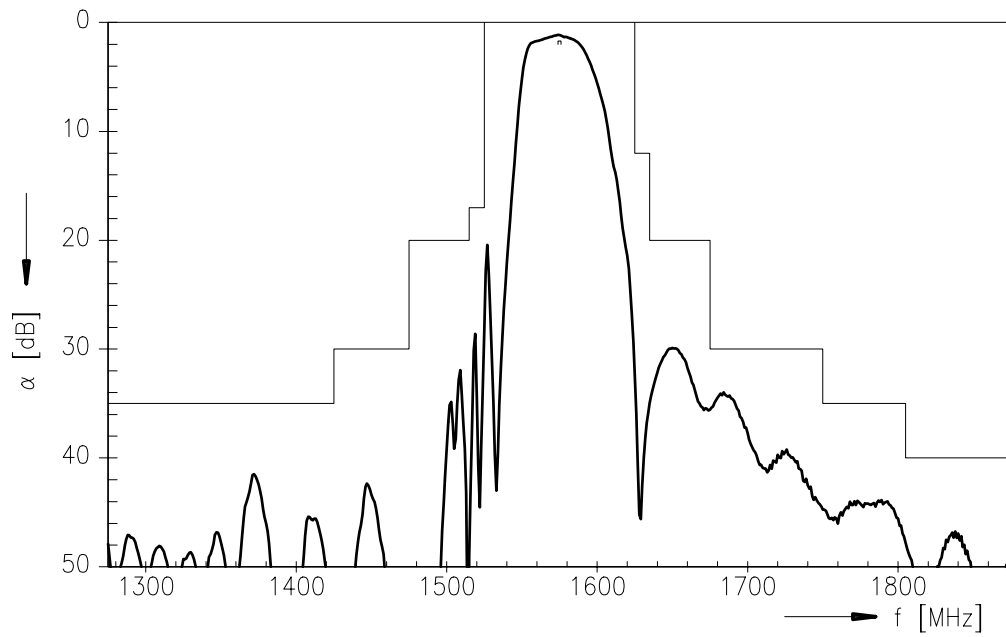
		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	1575,42	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
1574,42MHz ... 1576,42MHz*)		—	1,2	1,6	dB
1574,42MHz ... 1576,42 MHz		—	1,2	1,7	dB
<b>Amplitude ripple in passband (p-p)</b>	$\Delta\alpha$				
1574,42MHz ... 1576,42 MHz		—	0,1	0,3	dB
<b>Output phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b>					
1574,42MHz ... 1576,42 MHz		-10	6	10	°
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
1574,42MHz ... 1576,42 MHz		-1,0	0,2	1,0	dB
<b>Return loss</b>					
1574,42 ... 1576,42 MHz		11,0	21	—	dB
<b>VSWR</b>					
1574,42 ... 1576,42 MHz		—	1,2	1,8	
<b>Absolute attenuation</b>	$\alpha_{rel}$				
100,0 MHz ... 960,0 MHz		40	48	—	dB
960,0 MHz ... 1425,0 MHz		35	42	—	dB
1425,0 MHz ... 1475,0 MHz		30	42	—	dB
1475,0 MHz ... 1515,0 MHz		20	32	—	dB
1515,0 MHz ... 1525,0 MHz		17	27	—	dB
1625,0 MHz ... 1635,0 MHz		12	30	—	dB
1635,0 MHz ... 1675,0 MHz		20	30	—	dB
1675,0 MHz ... 1750,0 MHz		30	34	—	dB
1750,0 MHz ... 1805,0 MHz		35	44	—	dB
1805,0 MHz ... 1980,0 MHz		40	47	—	dB
1980,0 MHz ... 2400,0 MHz		35	39	—	dB
2400,0 MHz ... 3155,0 MHz		40	52	—	dB
3155,0 MHz ... 6000,0 MHz		35	44	—	dB

\*)  $T_A = +25 \text{ }^\circ\text{C}$



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Transfer function





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