



# SAW Components

Data Sheet B 8101





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**B 8101**

**Bandpass Filter**

**112,32 MHz**

**Data Sheet**

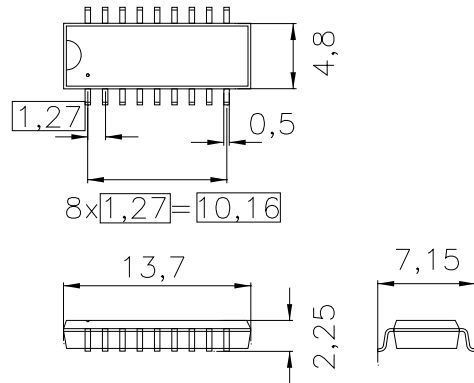
duroplast package **DIP18D**

**Features**

- IF filter for cordless application
- Channel selection in DECT system
- Low group delay ripple
- **Surface Mounted Technology (SMT)**
- Standard IC small outline (SO) package
- Balanced and unbalanced operation possible

**Terminals**

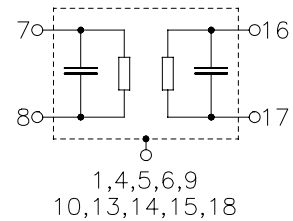
- Tinned CuFe alloy



Dimensions in mm, approx. weight 0.4 g

**Pin configuration**

- 7 Input
- 8 Input ground or balanced input
- 17 Output
- 16 Output ground or balanced output
- 1,4,5,6,9,10 Chip-carrier ground
- 13,14,15,18 not connected
- 2,3,11,12 not connected



Type	Ordering code	Marking and Package according to	Packing according to
B8101	B39112-B8101-L100	C61157-A2-A4	F61074-V8058-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	-25/+65	°C	
Storage temperature range	$T_{stg}$	-40/+85	°C	
DC voltage	$V_{DC}$	5	V	
Source power	$P_s$	10	dBm	



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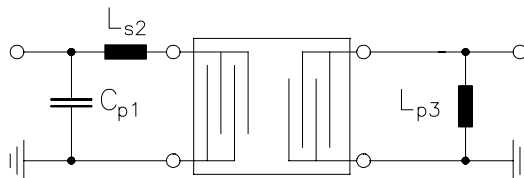
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**Characteristics**

Operating temperature range:  $T = +25\text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega (300\ \Omega \parallel 130\ \text{nH}^*)$   
 Terminating load impedance:  $Z_L = 50\ \Omega (80\ \Omega \parallel 68\ \text{nH}^*)$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	112,32	—	MHz
<b>Insertion attenuation at <math>f_N</math></b> (including losses in matching network)	$\alpha_N$	—	18,8 (13,0*)	20,3 (14,5*)	dB dB
<b>Passband width</b>	$B_{3\text{dB}}$	—	1,1	—	MHz
	$B_{30\text{dB}}$	—	2,3	—	MHz
<b>Group delay ripple (p-p)</b> $f_N - 600\ \text{kHz} \quad \dots \quad f_N + 600\ \text{kHz}$	$\Delta\tau$	—	100 (250*)	250 (350*)	ns ns
<b>Relative attenuation (relative to <math>\alpha_N</math>)</b>	$\alpha_{\text{rel}}$				
$f_N \pm 1,415\text{MHz} \dots f_N \pm 3,0\ \text{MHz}$		30	38	—	dB
$f_N \pm 3,0\ \text{MHz} \dots f_N \pm 4,6\ \text{MHz}$		40	47	—	dB
$f_N \pm 4,6\ \text{MHz} \dots f_N \pm 20,0\ \text{MHz}$		45	52	—	dB
$f_N \pm 1,728\text{MHz}$		32	38	—	dB
$f_N \pm 2 \times 1,728\text{MHz}$		40	47	—	dB
$f_N \pm 3 \times 1,728\text{MHz}$		48	53	—	dB
<b>Impedance at <math>f_N</math></b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	400 $\parallel$ 14,0	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	90 $\parallel$ 28,0	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 18	—	ppm/K

\*) with matching network to 50  $\Omega$  (element values depend on PCB layout):

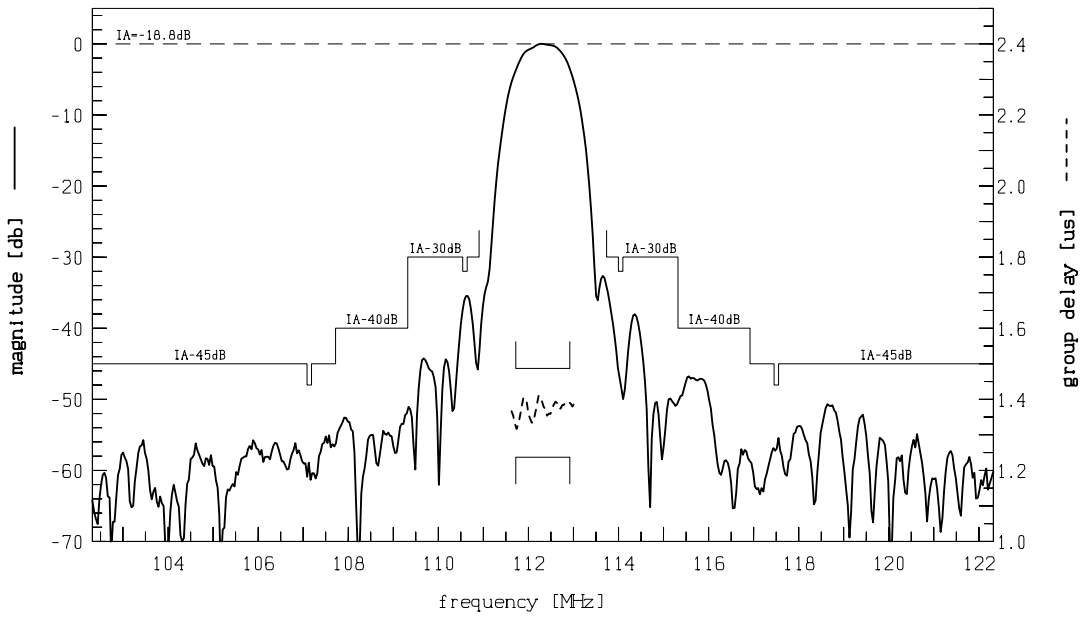


$C_{p1} = 27\ \text{pF}$   
 $L_{s2} = 150\ \text{nH}$   
 $L_{p3} = 68\ \text{nH}$

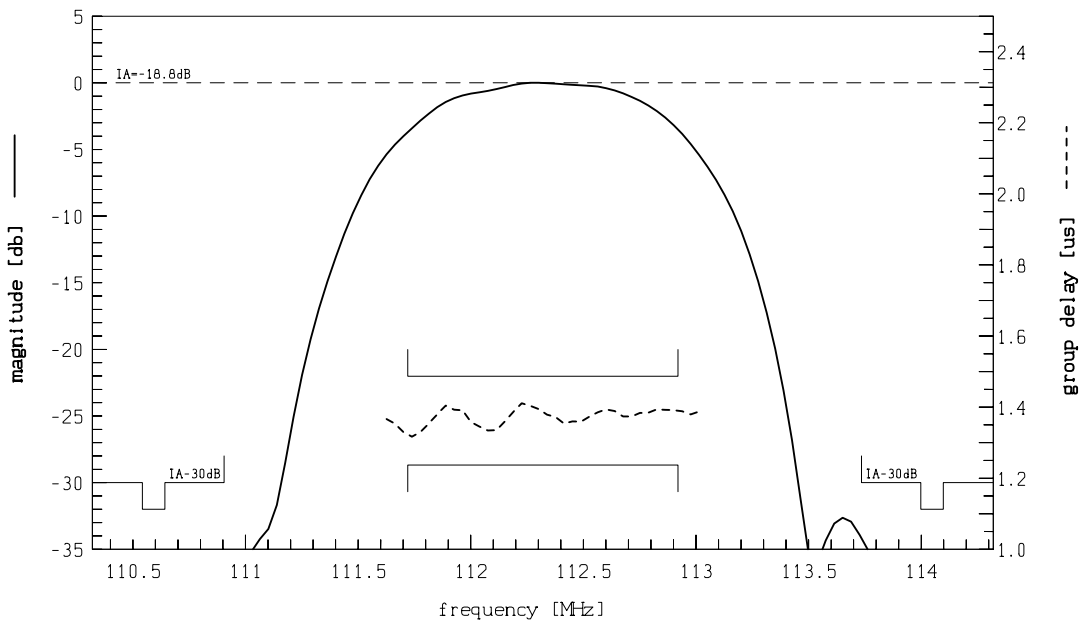


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Transfer function:



Transfer function (pass band):



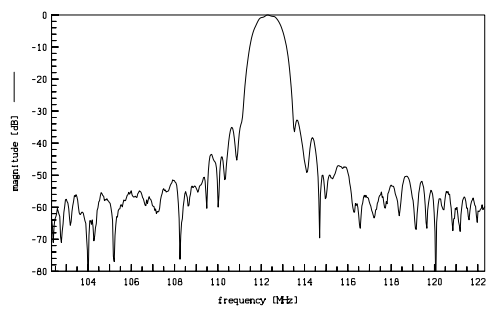
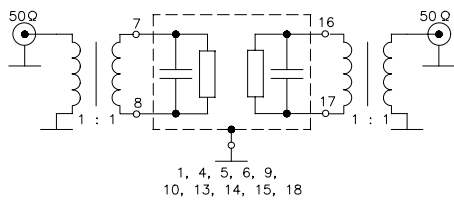


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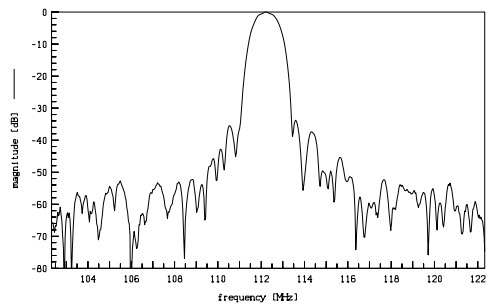
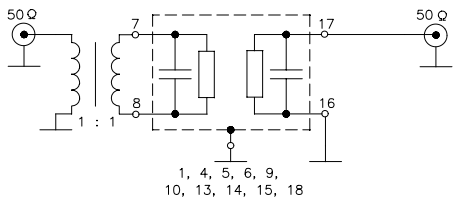
Recommended Pin Configurations:

For optimum performance use the following pin configurations.

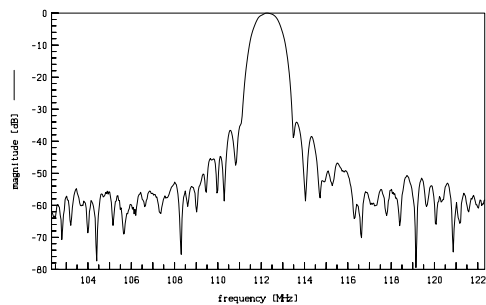
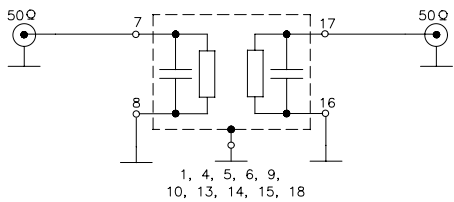
Balanced-balanced operation:



Balanced-unbalanced operation:



Unbalanced-unbalanced operation





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