



SAW Components

Data Sheet B 8101





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Bandpass Filter

112,32 MHz

Data Sheet

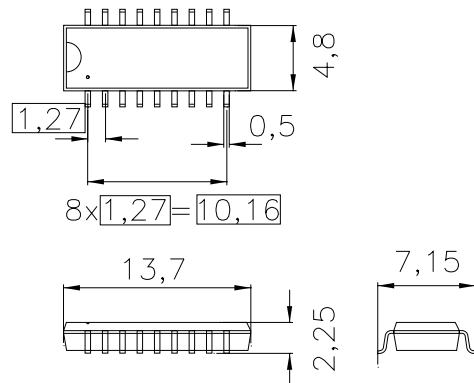
duroplast package **DIP18D**

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

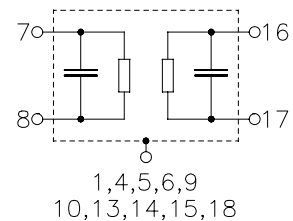
- Tinned CuFe alloy



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 | |
| 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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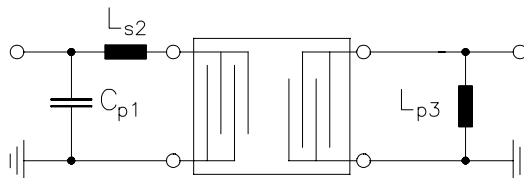
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Characteristics

Operating temperature range:	$T = +25\text{ °C}$
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.	
Nominal frequency	f_N	—	112,32	—	MHz
Insertion attenuation at f_N (including losses in matching network)	α_N	—	18,8 (13,0*)	20,3 (14,5*)	dB
Passband width	$B_{3\text{dB}}$	—	1,1	—	MHz
	$B_{30\text{dB}}$	—	2,3	—	MHz
Group delay ripple (p-p)	$\Delta\tau$				
$f_N - 600\text{ kHz} \quad \dots \quad f_N + 600\text{ kHz}$		—	100	250	ns
		—	(250*)	(350*)	ns
Relative attenuation (relative to α_N)	α_{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
Impedance at f_N					
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	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency	TC_f	—	- 18	—	ppm/K

*) with matching network to 50 Ω (element values depend on PCB layout):



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



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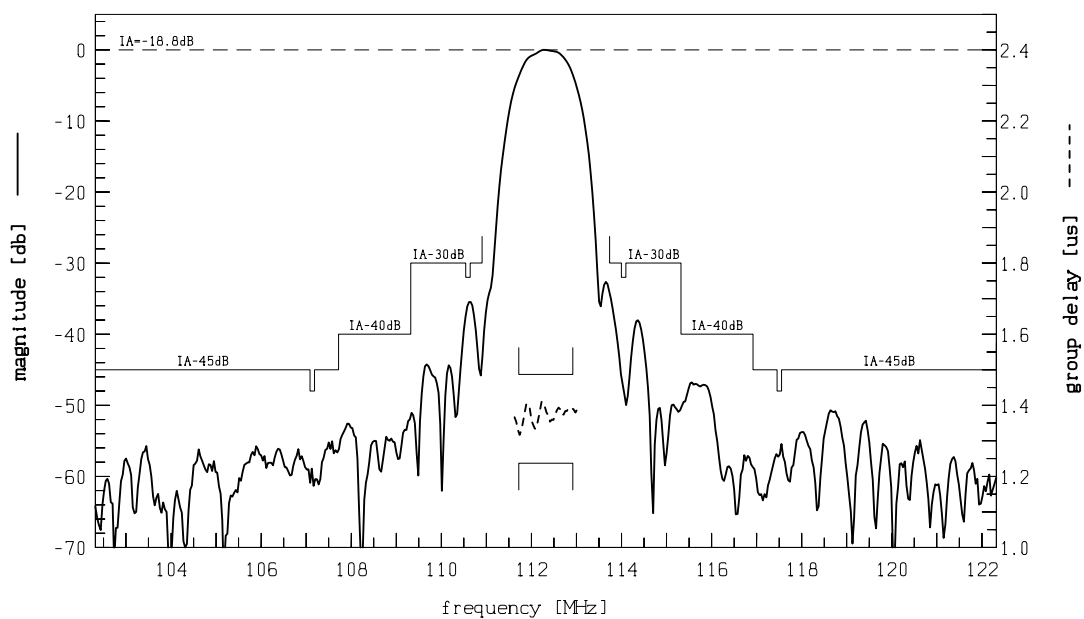
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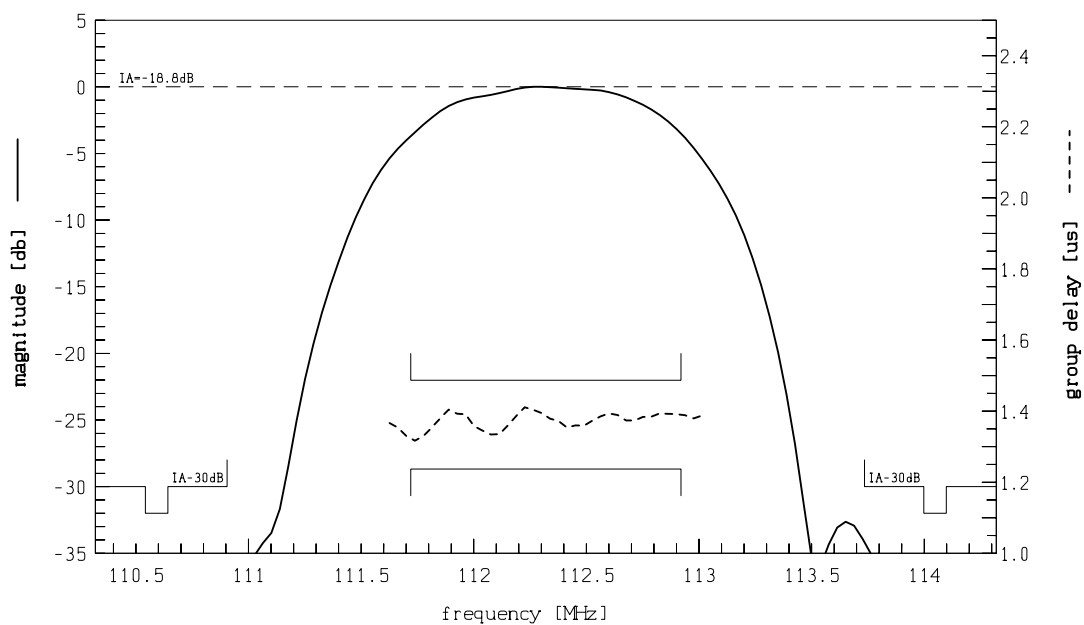
112,32 MHz

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Transfer function:



Transfer function (pass band):





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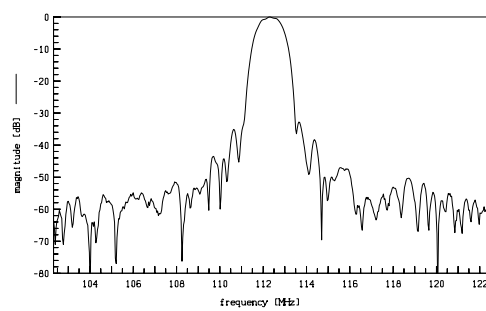
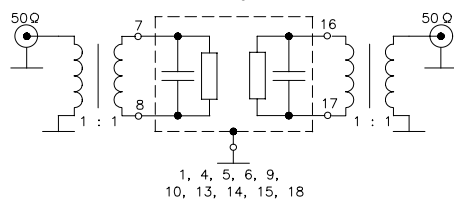
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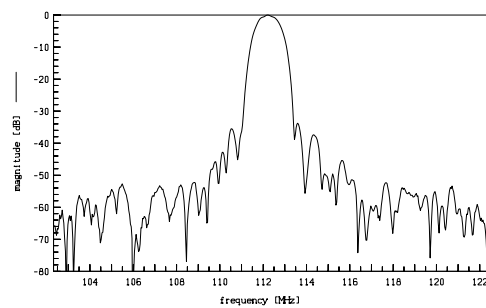
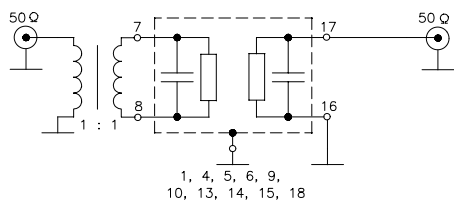
Recommended Pin Configurations:

For optimum performance use the following pin configurations.

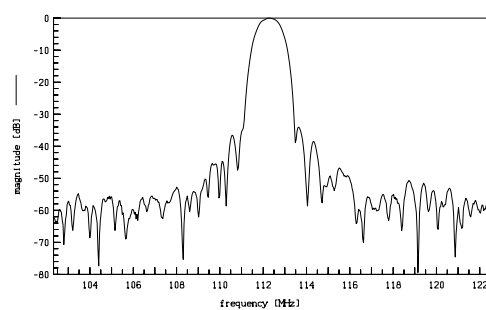
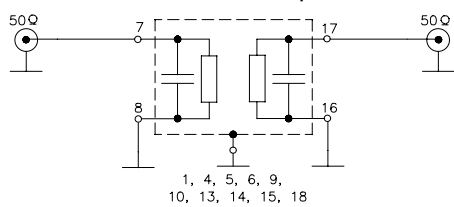
Balanced-balanced operation:



Balanced-unbalanced operation:



Unbalanced-unbalanced operation





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