EPCOS

SAW Components

Data Sheet B 8101

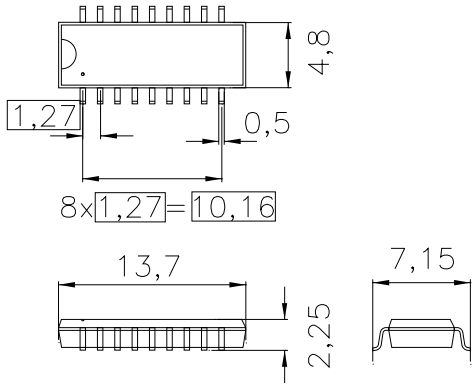
duroplast package **DIP18D**

Features

- IF filter for cordless application
- Channel selection in DECT system
- Low group delay ripple
- **S**urface **M**ounted **T**echnology (**SMT**)
- Standard IC small outline (SO) package
- Balanced and unbalanced operation possible

Terminals

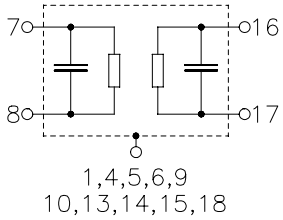
- Tinned CuFe alloy



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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

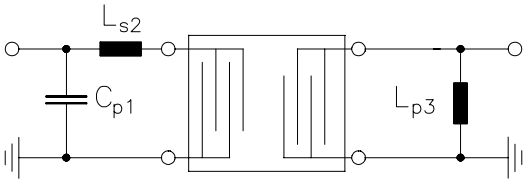
Operable temperature range	T	–25/+65	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
Source power	P_s	10	dBm	

Characteristics

Operating temperature range: T = +25 °C
Terminating source impedance: Z_S = 50 Ω (300 Ω || 130 nH*)
Terminating load impedance: Z_L = 50 Ω (80 Ω || 68 nH*)

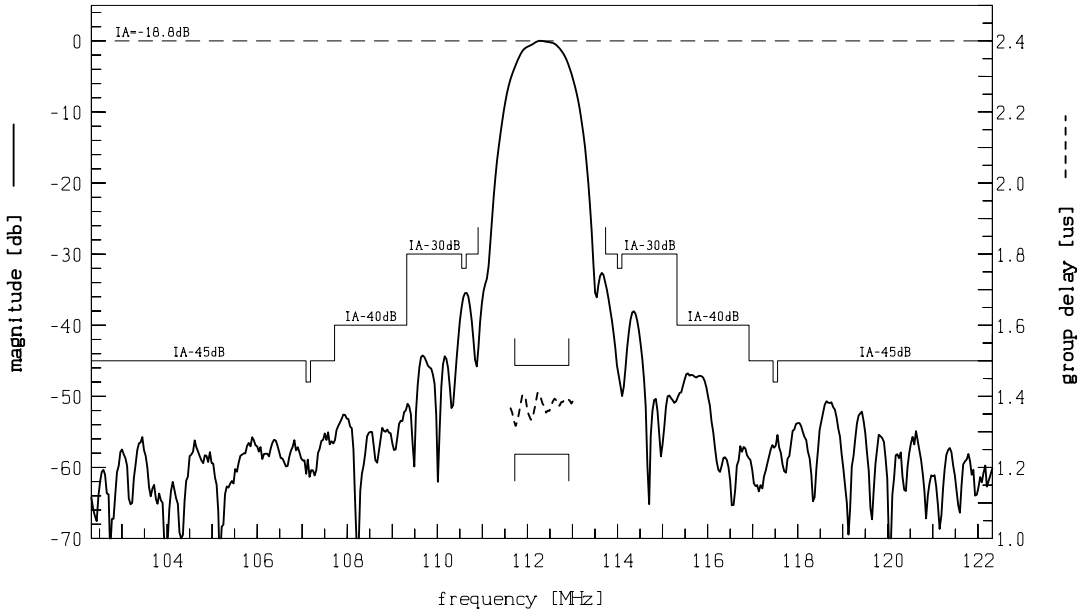
		min.	typ.	max.	
Nominal frequency	f_N	—	112,32	—	MHz
Insertion attenuation at f_N	α_N	—	18,8	20,3	dB
(including losses in matching network)		—	(13,0*)	(14,5*)	dB
Passband width	B_{3dB}	—	1,1	—	MHz
	B_{30dB}	—	2,3	—	MHz
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 600 kHz ... f_N + 600 kHz		—	100	250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

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

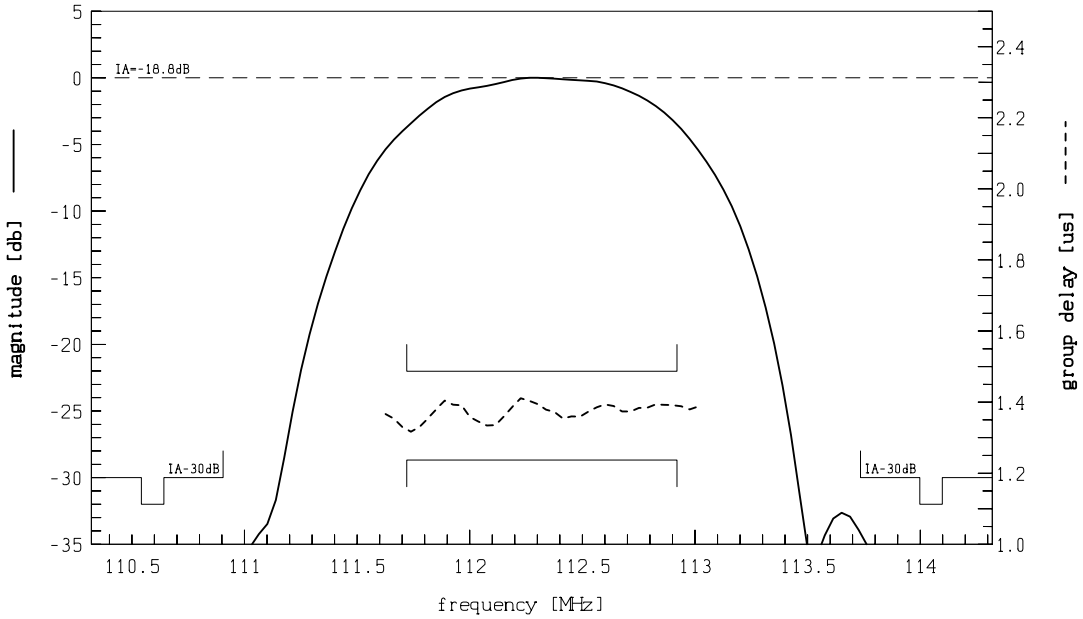


C_{p1} = 27 pF
L_{s2} = 150 nH
L_{p3} = 68 nH

Transfer function:



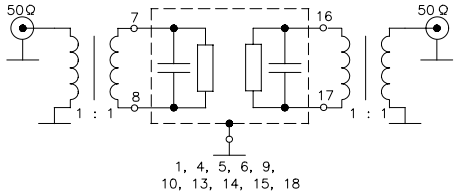
Transfer function (pass band):

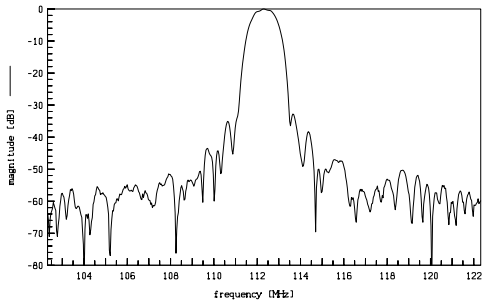


Recommended Pin Configurations:

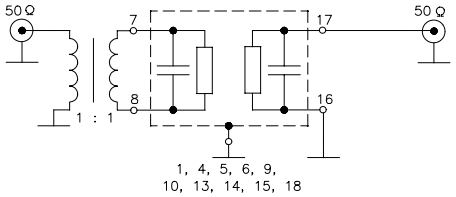
For optimum performance use the following pin configurations.

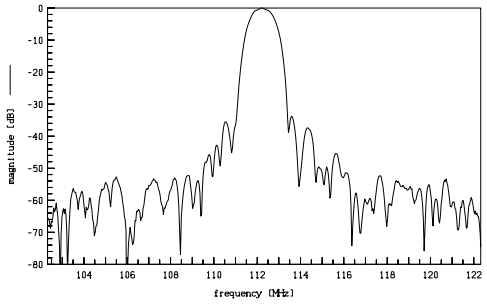
Balanced-balanced operation:



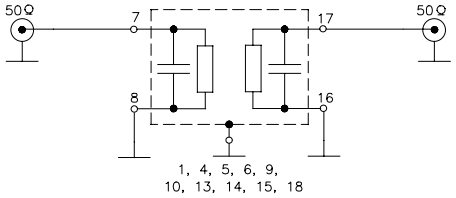


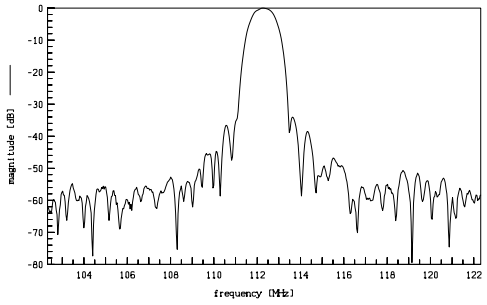
Balanced-unbalanced operation:





Unbalanced-unbalanced operation





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