



## IF Filters for Cordless Phones and ISM-Band Application

**Series/Type:**        **B8103**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39111B8103L100		2004-05-19	2004-12-31	2005-03-31

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at [www.epcos.com/sales](http://www.epcos.com/sales).



## Withdrawn Products

The following products presented in this data sheet are being withdrawn:

B39111B8103L100

Date of withdrawal: 19-MAY-04

Deadline for last orders: 31-DEC-04

Last shipments: 31-MAR-05

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of the sales offices are given on the Internet at [www.epcos.com/sales](http://www.epcos.com/sales).



# SAW Components

Data Sheet B 8103





**SAW Components**

**B 8103**

**Bandpass Filter**

**110,59 MHz**

**Data Sheet**

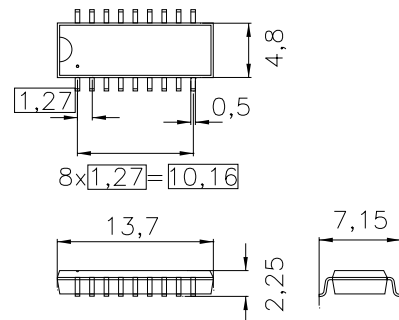
duroplast package **DIP18D**

**Features**

- IF filter for cordless phone
- Channel selection in ISM system
- **Surface Mounted Technology (SMT)**
- Standard IC small outline (SO) package
- Balanced and unbalanced operation possible

**Terminals**

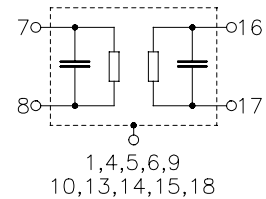
- Tinned CuFe alloy



Dimensions in mm, approx. weight 0,4 g

**Pin configuration**

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



Type	Ordering code	Marking and Package according to	Packing according to
B8103	B39111-B8103-L100	C61157-A2-A4	F61074-V8058-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	0/+55	°C	
Storage temperature range	$T_{stg}$	-40/+85	°C	
DC voltage	$V_{DC}$	0	V	
Source power	$P_s$	10	dBm	



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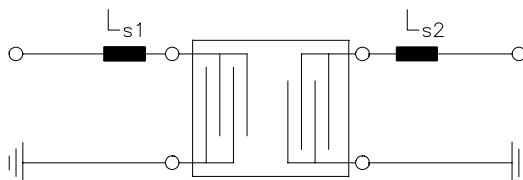
**Data Sheet**

**Characteristics**

Reference temperature:  $T = +25\text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  ( $190\ \Omega \parallel 160\ \text{nH}^*$ )  
 Terminating load impedance:  $Z_L = 50\ \Omega$  ( $180\ \Omega \parallel 150\ \text{nH}^*$ )

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	110,53	110,59	110,65	MHz
<b>Insertion attenuation at <math>f_N</math></b> (including losses in matching network)	$\alpha_N$	14,0 (11,1*)	15,5 (12,6*)	17,0 (14,1*)	dB dB
<b>Pass bandwidth</b>	$B_{3\text{dB}}$	0,66	0,70	0,74	MHz
	$B_{30\text{dB}}$	—	1,9	—	MHz
<b>Group delay ripple (p-p)</b> $f_N - 350\ \text{kHz} \quad \dots \quad f_N + 350\ \text{kHz}$	$\Delta\tau$	—	130 (350*)	200 (450*)	ns ns
<b>Relative attenuation (relative to <math>\alpha_n</math>)</b>	$\alpha_{\text{rel}}$				
$f_N \pm 20,0\ \text{MHz} \dots f_N \pm 3,1\ \text{MHz}$		42	48	—	dB
$f_N \pm 3,1\ \text{MHz} \dots f_N \pm 2,5\ \text{MHz}$		40	48	—	dB
$f_N \pm 2,5\ \text{MHz} \dots f_N \pm 1,3\ \text{MHz}$		32	38	—	dB
<b>Impedance at <math>f_N</math></b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	$190 \parallel 12$	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$180 \parallel 16$	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 18	—	ppm/K

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

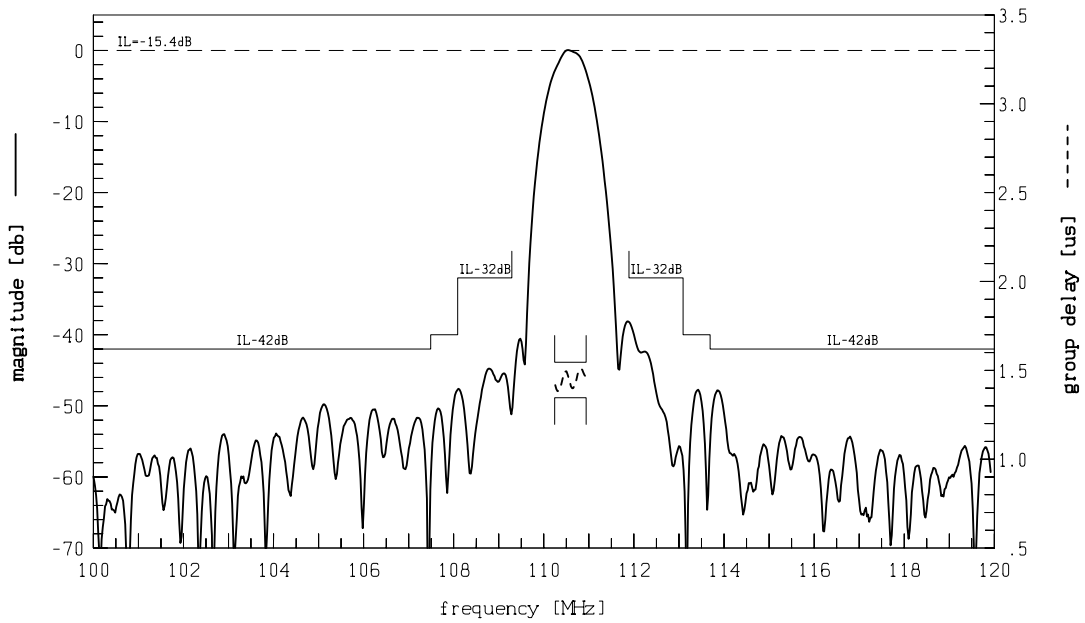


$L_{s1} = 100\ \text{nH}$   
 $L_{s2} = 120\ \text{nH}$

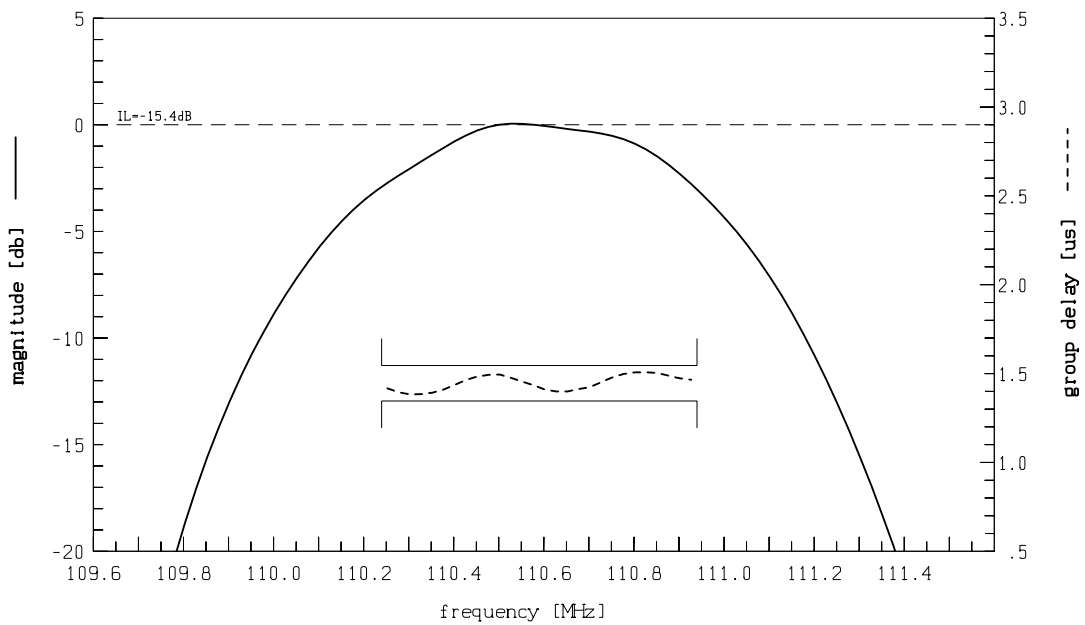


Data Sheet

Transfer function:



Transfer function (pass band):





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**P.O. Box 80 17 09, D-81617 München**

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