



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The following products presented in this data sheet are being withdrawn.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## Withdrawn Products

The following products presented in this data sheet are being withdrawn: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

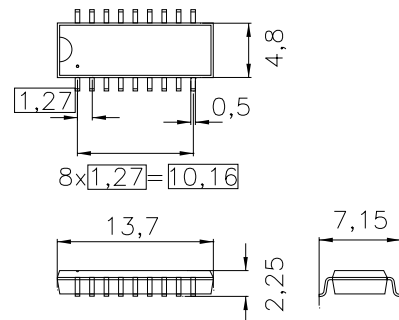
duroplast package **DIP18D**

**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**

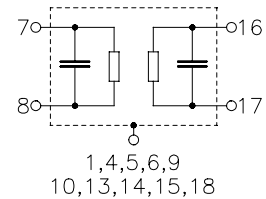
- Tinned CuFe alloy



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	



**SAW Components**

**B 8103**

**Bandpass Filter**

**110,59 MHz**

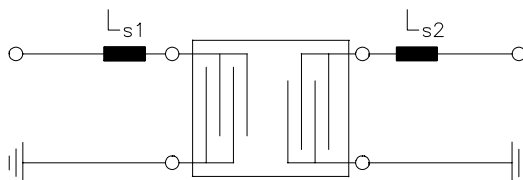
**Data Sheet**

**Characteristics**

Reference temperature:  $T = +25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  (190  $\Omega$  || 160 nH\*)  
 Terminating load impedance:  $Z_L = 50\ \Omega$  (180  $\Omega$  || 150 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>	$B_{3dB}$	0,66	0,70	0,74	MHz
	$B_{30dB}$	—	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>	$\alpha_{rel}$				
$f_N \pm 20,0\text{ MHz} \dots f_N \pm 3,1\text{ MHz}$		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: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	190    12	—	$\Omega$    pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	180    16	—	$\Omega$    pF
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 18	—	ppm/K

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

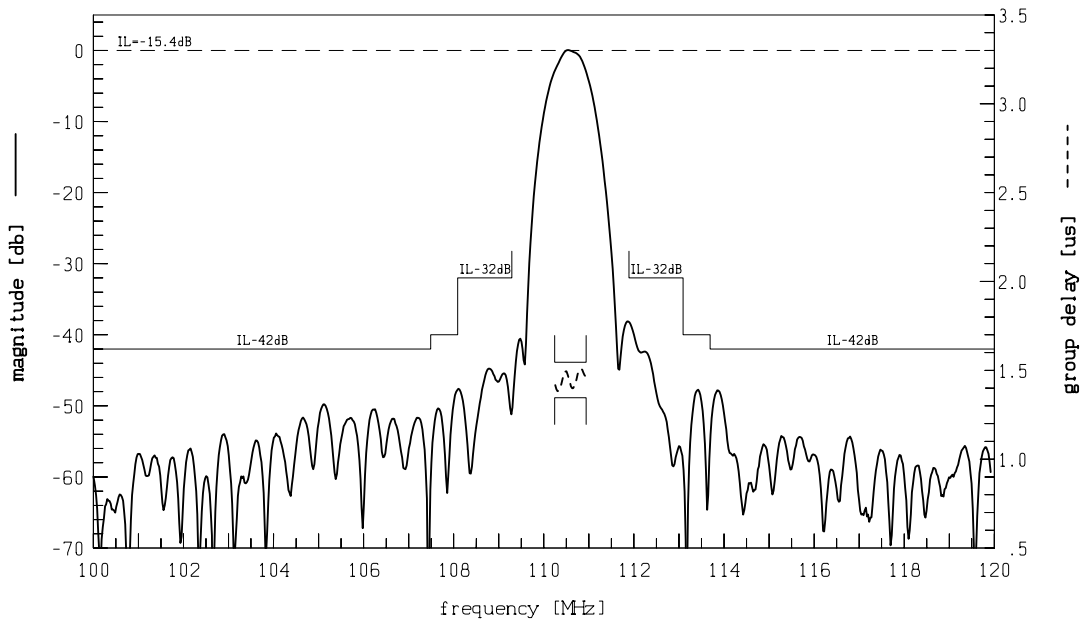


$L_{s1} = 100\text{ nH}$   
 $L_{s2} = 120\text{ nH}$

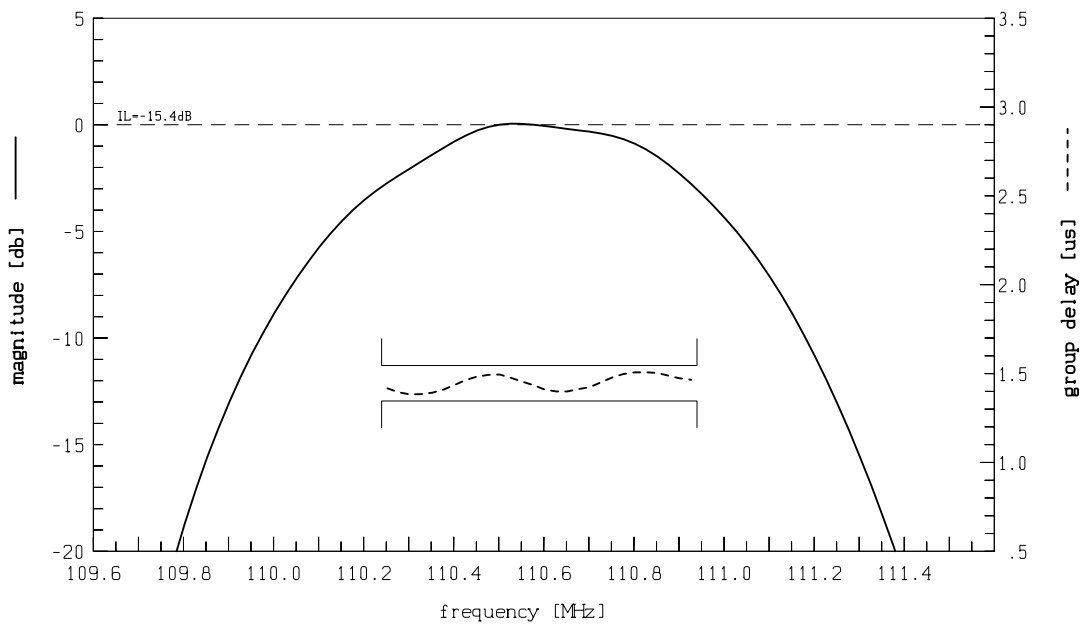


Data Sheet

Transfer function:



Transfer function (pass band):





**SAW Components**

**B 8103**

**Bandpass Filter**

**110,59 MHz**

Data Sheet

**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW CE MM PD**

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

© EPCOS AG 2001. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, prices and delivery please contact the sales offices of EPCOS AG or the international representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our sales offices.