

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The following products presented in this data sheet are being withdrawn.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

Withdrawn Products

The following products presented in this data sheet are being withdrawn: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

SAW Components

Data Sheet B 8103

Data Sheet

A stylized, 3D-rendered logo for "EPCCOS". The letters are white and appear to be floating or emerging from a dark, swirling, smoke-like background. The "E" and "P" are partially obscured by the swirling motion.

SAW Components

B 8103

Bandpass Filter

110,59 MHz

Data Sheet

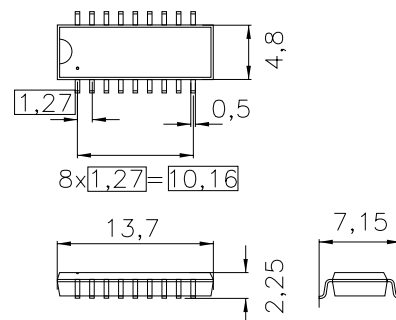
duroplast package **DIP18D**

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

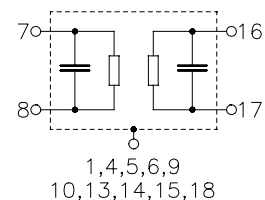
- Tinned CuFe alloy



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
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Characteristics

Reference temperature:

$$T = +25\text{ }^{\circ}\text{C}$$

Terminating source impedance:

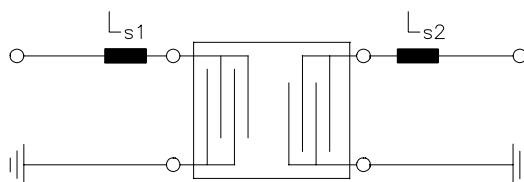
$$Z_S = 50\text{ }\Omega\text{ (}190\text{ }\Omega\text{ }\parallel\text{ }160\text{ nH}^*)$$

Terminating load impedance:

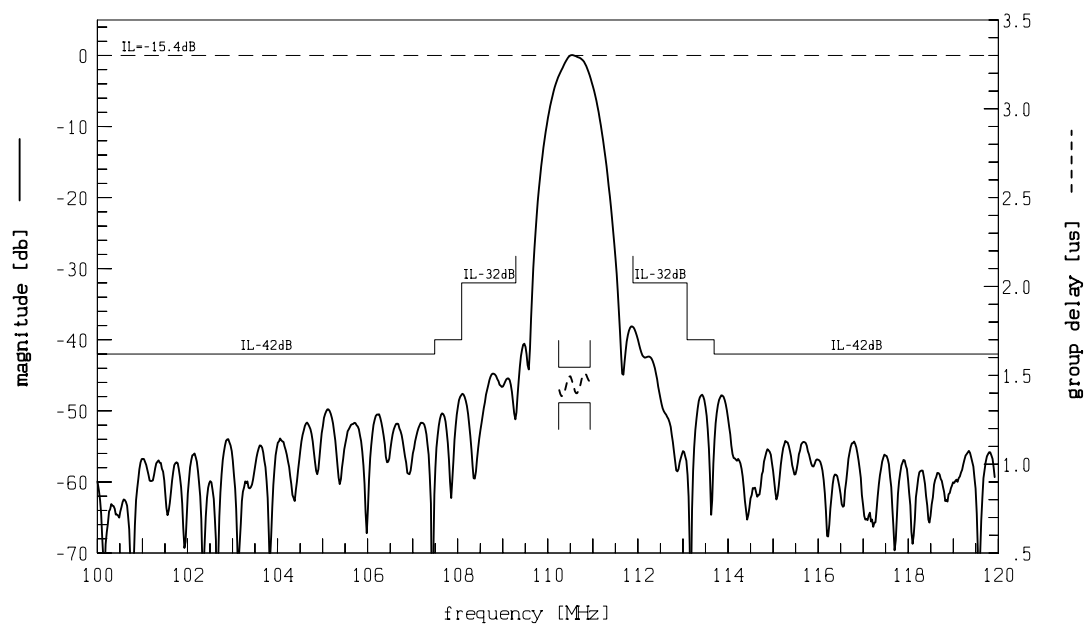
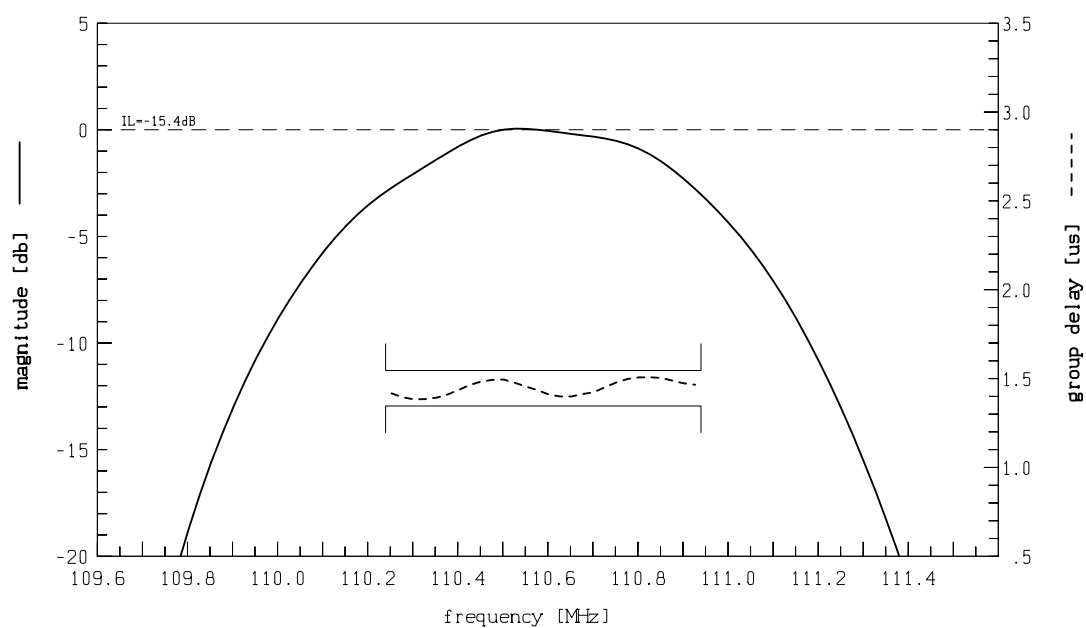
$$Z_L = 50\text{ }\Omega\text{ (}180\text{ }\Omega\text{ }\parallel\text{ }150\text{ nH}^*)$$

		min.	typ.	max.	
Nominal frequency	f_N	110,53	110,59	110,65	MHz
Insertion attenuation at f_N (including losses in matching network)	α_N	14,0 (11,1*)	15,5 (12,6*)	17,0 (14,1*)	dB dB
Pass bandwidth	$B_{3\text{dB}}$	0,66	0,70	0,74	MHz
	$B_{30\text{dB}}$	—	1,9	—	MHz
Group delay ripple (p-p) $f_N - 350\text{ kHz} \quad \dots \quad f_N + 350\text{ kHz}$	$\Delta\tau$	— —	130 (350*)	200 (450*)	ns ns
Relative attenuation (relative to α_N)	α_{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
Impedance at f_N					
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	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency	TC_f	—	- 18	—	ppm/K

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



$$\begin{aligned} L_{s1} &= 100\text{ nH} \\ L_{s2} &= 120\text{ nH} \end{aligned}$$

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**

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