



# SAW filters for infrastructure systems

## Series/Type: B3608

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39141B3608Z510	B39141B5246H810	2012-01-13	2012-12-31	2013-03-30

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).

© EPCOS AG 2015. Reproduction, publication and dissemination of this publication, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.

EPCOS AG is a TDK Group Company.

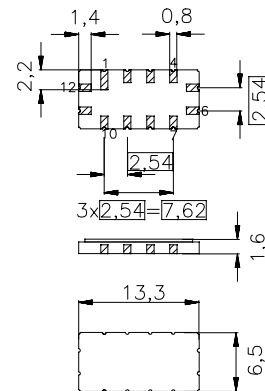
**Preliminary Data Sheet**

 Ceramic package **QCC 12**
**Features**

- High performance IF bandpass filter
- Constant group delay
- Hermetically sealed ceramic package

**Terminals**

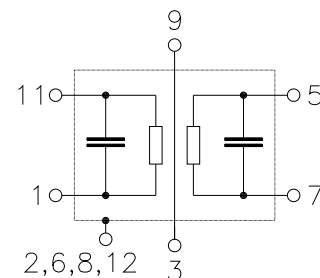
- Gold plated



Dimensions in mm, approx. weight 0,4 g

**Pin configuration**

- |                             |                              |
|-----------------------------|------------------------------|
| 11                          | Input or balanced Input      |
| 1                           | Input-Ground or bal. Input   |
| 5                           | Output or balanced Output    |
| 7                           | Output-Ground or bal. Output |
| 2, 3, 4, 6,<br>8, 9, 10, 12 | Must be grounded             |



Type	Ordering code	Marking and Package according to	Packing according to
B3608	B39141B3608Z510	C61157A0007A055	F61074V8026Z000

**Electrostatic Sensitive Device (ESD)**
**Maximum ratings**

Operable temperature range	$T$	- 40/+ 85	°C	source impedance 50 $\Omega$ s. imp. 50 $\Omega$ , duty cycle 1:100
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	0	V	
Source power	$P_s$	10	dBm	
Source power	$P_s$	20	dBm	

**Preliminary Data Sheet**
**Characteristics**

Operating temperature:

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

Terminating source impedance:

$Z_S = 50 \text{ } \Omega \text{ and matching circuit}$

Terminating load impedance:

$Z_L = 50 \text{ } \Omega \text{ and matching circuit}$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b> (Center between 3dB points)	$f_C$	139,75	140,00	140,25	MHz
<b>Insertion attenuation at <math>f_C</math></b>	$\alpha_C$	—	10	11	dB
<b>Group delay at <math>f_C</math></b>	$\tau_C$	1,18	1,23	1,28	$\mu\text{s}$

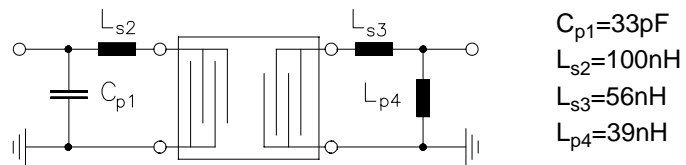
**Preliminary Data Sheet**
**Characteristics**

Operating temperature:	$T = -40\text{ °C} \dots +85\text{ °C}$
Terminating source impedance:	$Z_S = 50\ \Omega$ and matching circuit
Terminating load impedance:	$Z_L = 50\ \Omega$ and matching circuit
Group delay aperture:	200 kHz

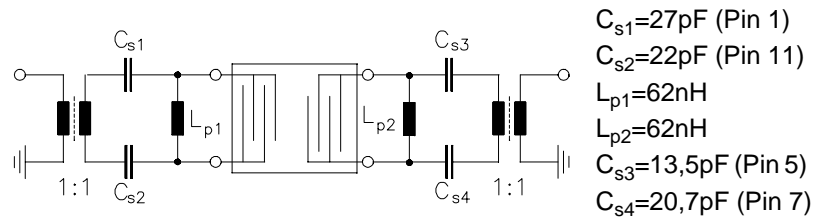
		min.	typ.	max.	
<b>Center frequency</b> (Center between 3dB points)	$f_C$	138,85	140,00	141,15	MHz
<b>Insertion attenuation at <math>f_C</math></b>	$\alpha_C$	—	—	13	dB
<b>Amplitude ripple</b> (max peak to adjacent valley) (80% of $B_{3dB}$ )	$\Delta\alpha$ 133,60 ... 146,40 MHz	—	0,5	0,9	dB
<b>Phase ripple</b> (p-p) (80% of $B_{3dB}$ )	$\Delta\phi$ 133,60 ... 146,40 MHz	—	7	14	°
<b>Pass bandwidth</b>					
	$\alpha_{rel} \leq 1\text{ dB}$	$B_{1dB}$	15,0	16,0	— MHz
	$\alpha_{rel} \leq 3\text{ dB}$	$B_{3dB}$	16,0	16,8	— MHz
	$\alpha_{rel} \leq 40\text{ dB}$	$B_{40dB}$	—	21,0	22,0 MHz
<b>Relative attenuation</b> relative to $\alpha_C$	$\alpha_{rel}$				
	100,00 ... 128,70 MHz	40	45	—	dB
	128,70 ... 129,00 MHz	37	43	—	dB
	151,00 ... 152,30 MHz	24	30	—	dB
	152,30 ... 180,00 MHz	40	45	—	dB
<b>Group delay ripple</b> (p-p) (80% of $B_{3dB}$ )	$\Delta\tau$ 133,60 ... 146,40 MHz	—	80	140	ns
<b>Reflected wave signal suppression</b> 0,70 $\mu\text{s}$ ... 3,75 $\mu\text{s}$ after main pulse		35	38	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 87	—	ppm/K

**Preliminary Data Sheet**
**Matching circuit:** Element values depending on PCB layout

Input and output unbalanced

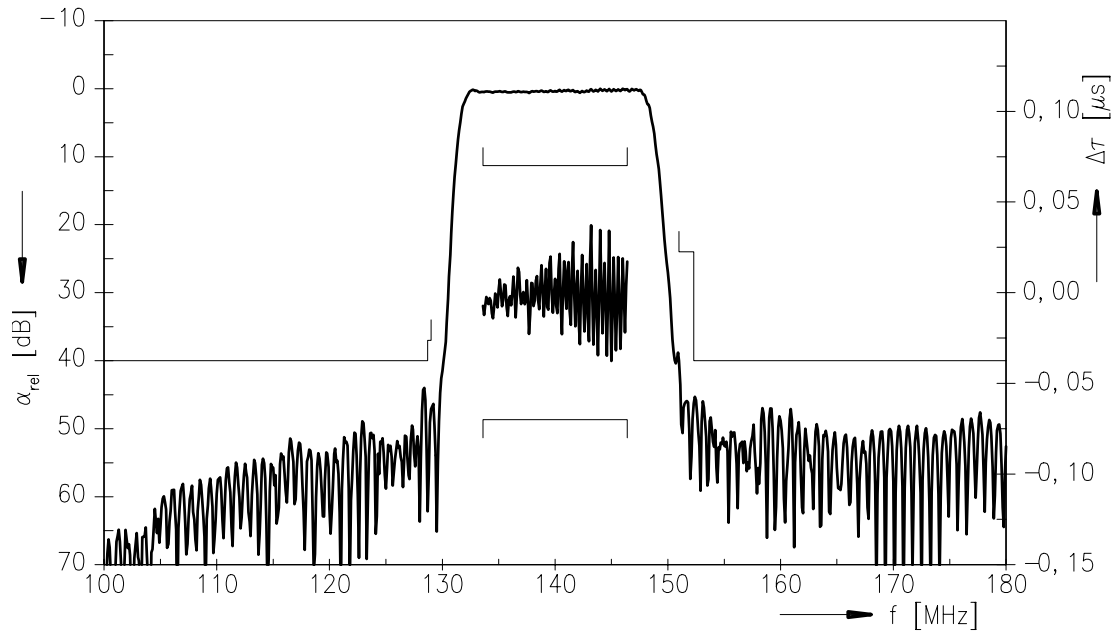


Input and output balanced

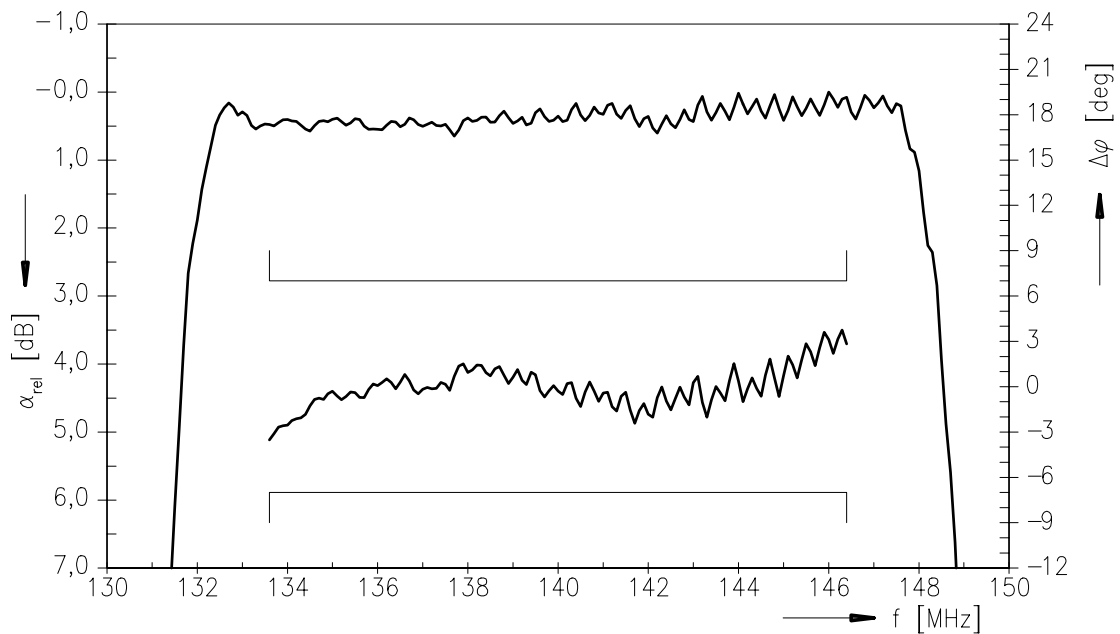


Preliminary Data Sheet

Normalized frequency response



Normalized frequency response



**SAW Components****B3608****Low-Loss Filter****140 MHz****Preliminary Data Sheet****Attachment**

Pyroelectric pulse amplitude &lt; 100 mV.

**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW MC IS,  
P.O. Box 80 17 09, 81617 Munich, GERMANY**

© EPCOS AG 2002. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

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.