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The following products presented in this data sheet are being withdrawn.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

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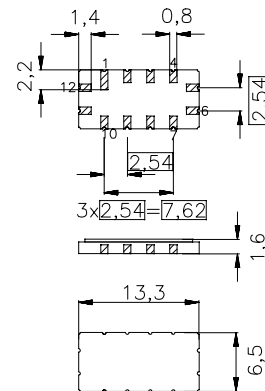
**Preliminary Data Sheet**

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

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

**Terminals**

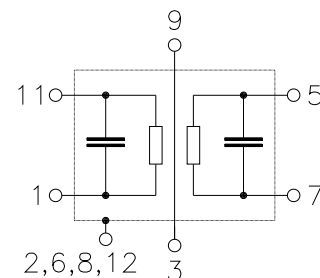
- Gold plated



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:

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

Terminating load impedance:

 $Z_L = 50 \text{ } \Omega$  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</b> at $f_C$	$\alpha_C$	—	10	11	dB
<b>Group delay</b> at $f_C$	$\tau_C$	1,18	1,23	1,28	$\mu\text{s}$

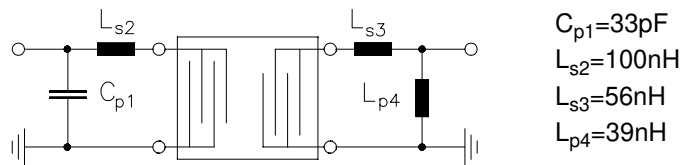
**Preliminary Data Sheet**
**Characteristics**

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

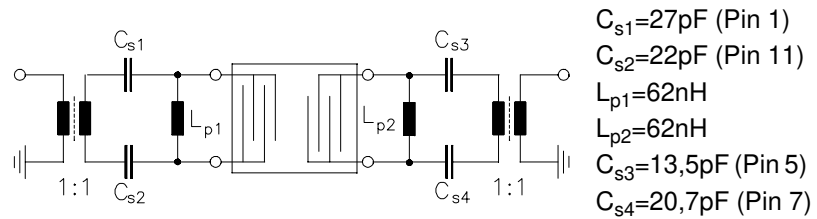
		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b> (Center between 3dB points)	$f_C$	138,85	140,00	141,15	MHz
<b>Insertion attenuation at <math>f_C</math></b>	$\alpha_C$	—	—	13	dB
<b>Amplitude ripple</b> (max peak to adjacent valley) (80% of $B_{3dB}$ )	$\Delta\alpha$ 133,60 ... 146,40 MHz	—	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



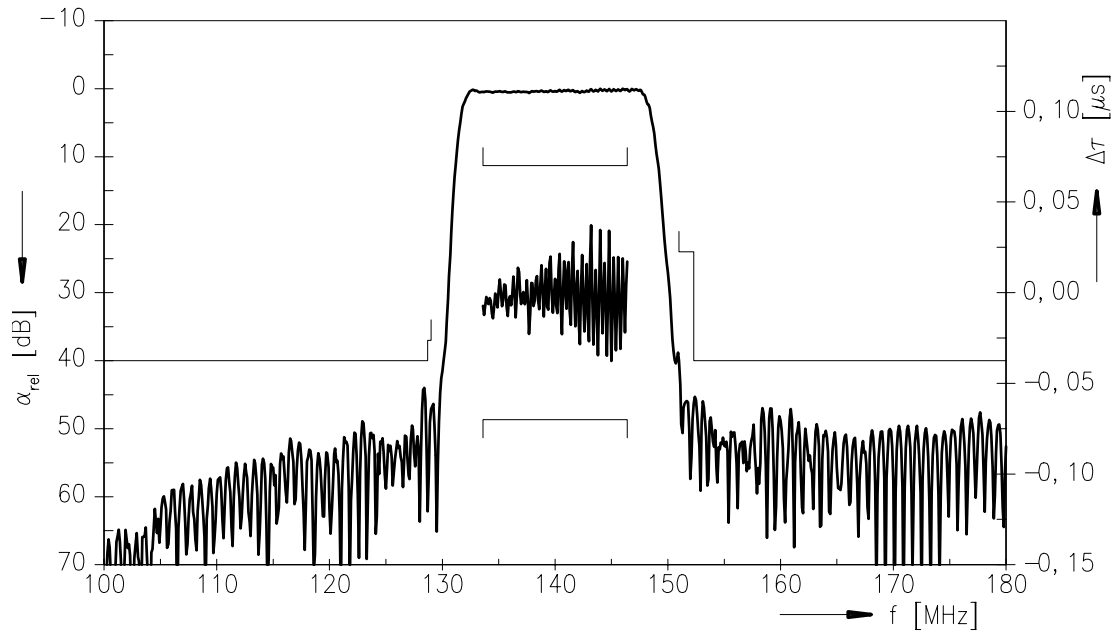
Input and output balanced



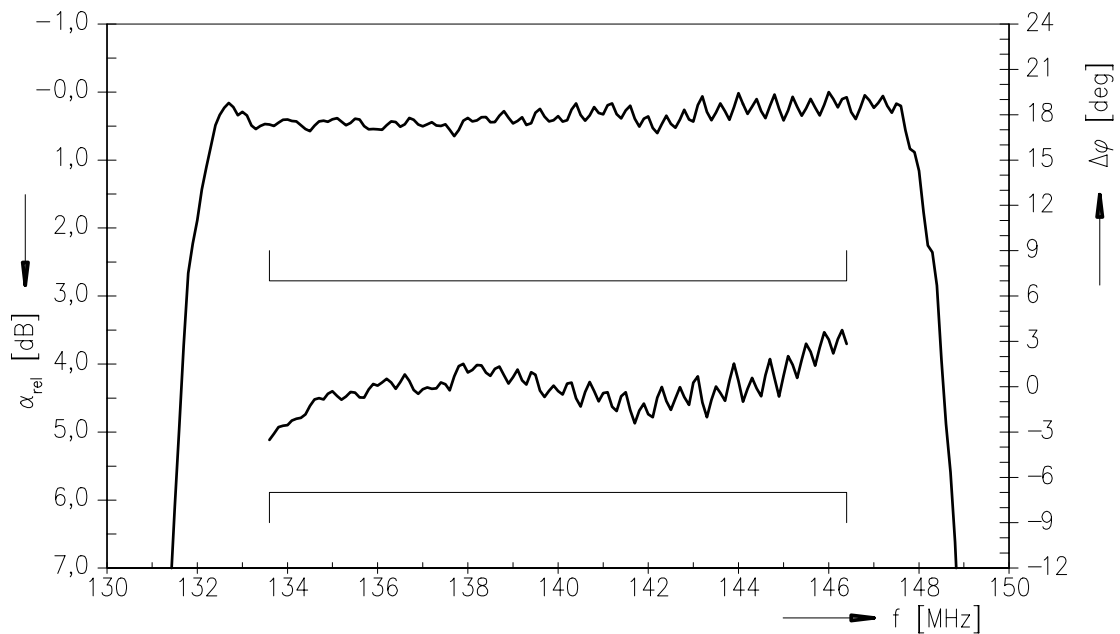


Preliminary Data Sheet

Normalized frequency response



Normalized frequency response



**SAW Components**

**B3608**

**Low-Loss Filter**

**140 MHz**

**Preliminary Data Sheet**

**Attachment**

Pyroelectric pulse amplitude < 100 mV.



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