



# SAW filters for infrastructure systems

## **Series/Type: B5045**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39201B5045H510		2012-01-13	2012-12-31	2013-03-30

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## SAW Components

B5045

### SAW IF filter

201.0 MHz

#### Data Sheet



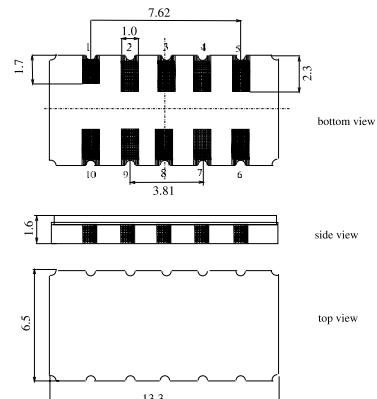
#### Application

- Low-loss IF filter for GSM / EDGE base station
- Usable passband 220 kHz
- Temperature stable
- Balanced or unbalanced operation possible



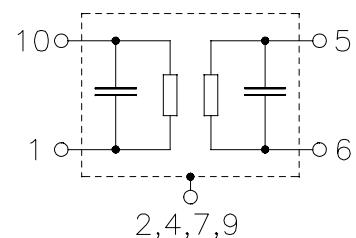
#### Features

- Package size 13.3 x 6.5 x 1.6 mm<sup>3</sup>
- Package code DCC12A
- RoHS compatible
- Approx. weight 0.4 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated



#### Pin configuration

- 1, 10      Input
- 5, 6      Output
- 3, 8      To be grounded
- 2, 4, 7, 9   Case ground



Please read *cautions and warnings and important notes* at the end of this document.

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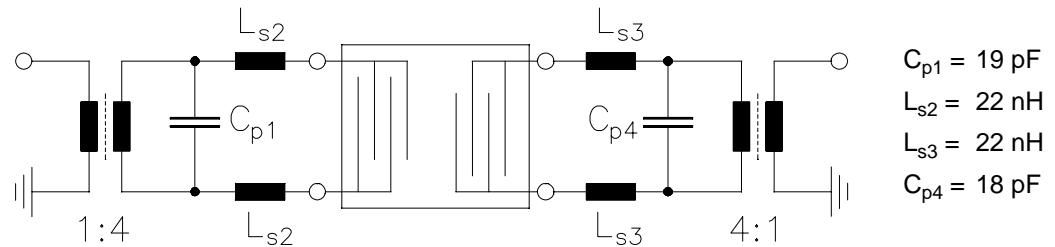
**Characteristics**

Operating temperature range:	$T = 0$ to $70$ °C
Terminating source impedance:	$Z_S = 200 \Omega$ balanced and matching network
Terminating load impedance:	$Z_L = 200 \Omega$ balanced and matching network

		<b>min.</b>	<b>typ. @ 25 °C</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	201.0	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	4.4	5.5	dB
<b>Passband width</b> $\alpha_{\text{rel}} \leq 1$ dB	$B_{1.0\text{dB}}$	—	290	—	kHz
<b>Amplitude ripple (p-p)</b> $f_N \pm 110$ kHz	$\Delta\alpha$	—	0.6	1.0	dB
<b>Group delay ripple (p-p)</b> $f_N \pm 110$ kHz	$\Delta\tau$	—	1.0	1.5	μs
<b>Absolute group delay</b> at $f_N$	$\tau$	1.7	1.95	2.2	μs
<b>Relative attenuation</b> (relative to $\alpha_{\min}$ )	$\alpha_{\text{rel}}$				
$f_N \pm 300$ kHz ... $f_N \pm 400$ kHz		16	25	—	dB
$f_N \pm 400$ kHz ... $f_N \pm 600$ kHz		27	30	—	dB
$f_N \pm 600$ kHz ... $f_N \pm 800$ kHz		28	35	—	dB
$f_N \pm 800$ kHz ... $f_N \pm 35$ MHz		38	45	—	dB
<b>Impulse response attenuation</b> (relative to max.)					
> 3 μs after main lobe		10	12	—	dB
> 30 μs after main lobe		50	60	—	dB
<b>IM3 level</b> (Input level -17 dBm)					
$f_N \pm 800$ kHz		—	—	-110	dB
$f_N \pm 1600$ kHz		—	—	-110	dB
<b>Temperature coefficient of frequency</b> <sup>1)</sup>	$TC_f$	—	-0.036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	35	—	°C

<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T_A) = f_c(T_0) (1 + TC_f(T_A - T_0)^2)$

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**Matching network to 200  $\Omega$  balanced**


Transformers are only required for measurement in a 50  $\Omega$  environment.

Element values depend upon PCB layout and properties.

**Maximum ratings**

Operable temperature range	$T$	-40/+85	$^{\circ}\text{C}$	
Storage temperature range	$T_{\text{stg}}$	-40/+85	$^{\circ}\text{C}$	
DC voltage	$V_{\text{DC}}$	0	V	
ESD voltage	$V_{\text{ESD}}$	200 <sup>1)</sup>	V	machine model, 1 pulse
Input power	$P_{\text{IN}}$	10	dBm	

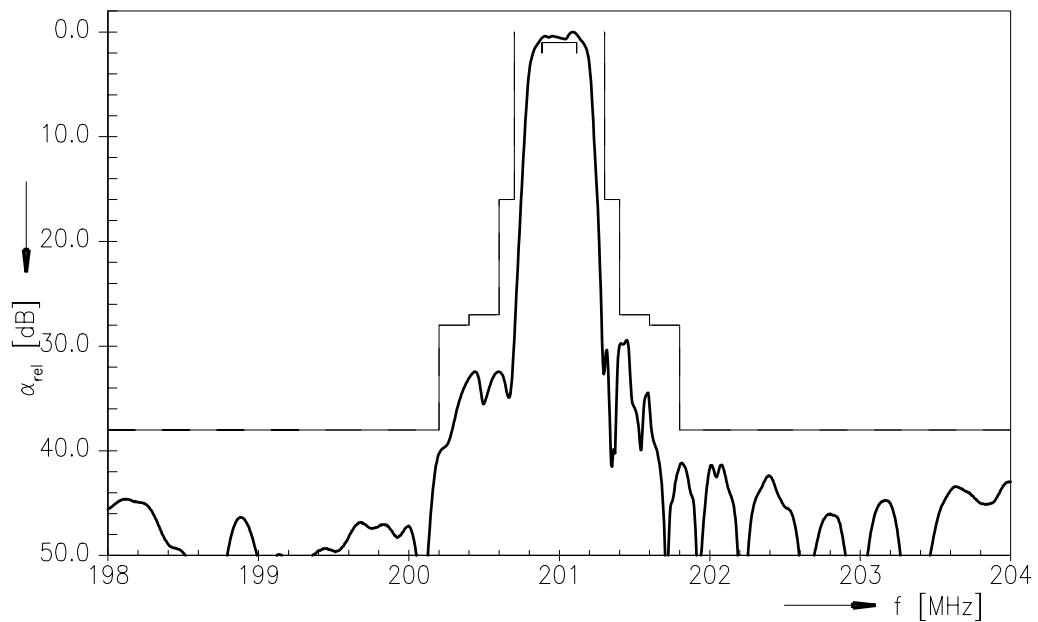
<sup>1)</sup> acc. to J-STD22A-0115A (machine model, 1 pulse +/-).

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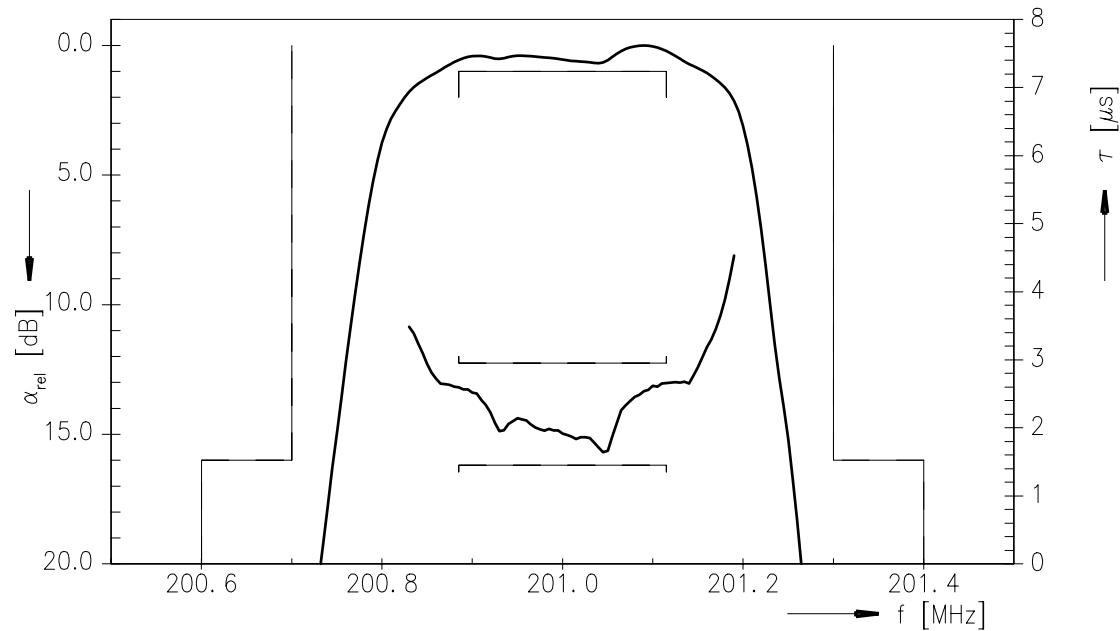
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**Transfer function**



**Transfer function (passband)**



Please read *cautions and warnings* and  
*important notes* at the end of this document.

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**References**

Type	B5045
Ordering code	B39201-B5045-H510
Marking and package	C61157-A7-A94
Packaging	F61074-V8163-Z000
Date codes	L_1126
S-parameters	
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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