



SAW Components

SAW IF filter

GSM base station

Series/type:	B5045
Ordering code:	B39201-B5045-H510
Date:	January 12, 2009
Version:	2.0

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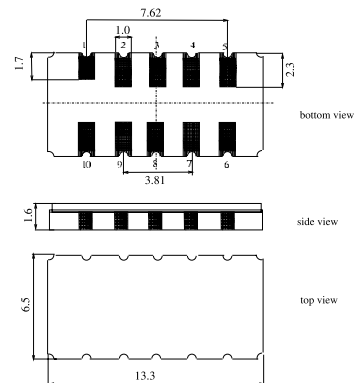
Application

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



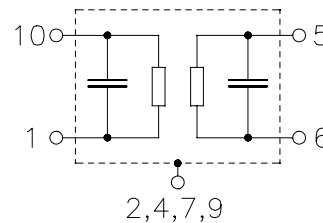
Features

- Package size 13.3 x 6.5 x 1.6 mm³
- 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




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Characteristics

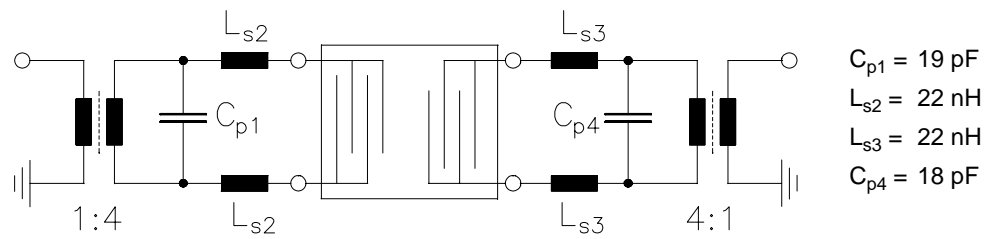
Operating temperature range:	T = 0 to 70 °C
Terminating source impedance:	Z _S = 200 Ω balanced and matching network
Terminating load impedance:	Z _L = 200 Ω balanced and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f _N	—	201.0	—	MHz
Minimum insertion attenuation (including matching network)	α _{min}	—	4.4	5.5	dB
Passband width α _{rel} ≤ 1 dB	B _{1.0dB}	—	290	—	kHz
Amplitude ripple (p-p) f _N ± 110 kHz	Δα	—	0.6	1.0	dB
Group delay ripple (p-p) f _N ± 110 kHz	Δτ	—	1.0	1.5	μs
Absolute group delay at f _N	τ	1.7	1.95	2.2	μs
Relative attenuation (relative to α _{min})	α _{rel}				
f _N ± 300 kHz ... f _N ± 400 kHz		16	25	—	dB
f _N ± 400 kHz ... f _N ± 600 kHz		27	30	—	dB
f _N ± 600 kHz ... f _N ± 800 kHz		28	35	—	dB
f _N ± 800 kHz ... f _N ± 35 MHz		38	45	—	dB
Impulse response attenuation (relative to max.)					
> 3 μs after main lobe		10	12	—	dB
> 30 μs after main lobe		50	60	—	dB
IM3 level (Input level -17 dBm)					
f _N ± 800 kHz		—	—	-110	dB
f _N ± 1600 kHz		—	—	-110	dB
Temperature coefficient of frequency ¹⁾	TC _f	—	-0.036	—	ppm/K ²
Turnover temperature	T ₀	—	35	—	°C

¹⁾ Temperature dependance of f_c: f_c(T_A) = f_c(T₀) (1 + TC_f(T_A - T₀)²)



Matching network to 200 Ω balanced



Transformers are only required for measurement in a 50 Ω environment.
 Element values depend upon PCB layout and properties.

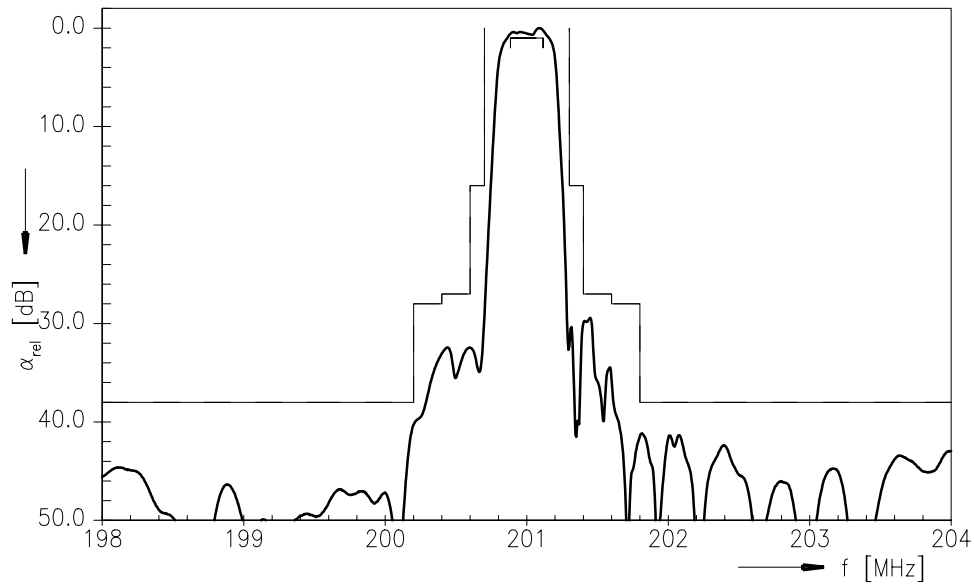
Maximum ratings

Operable temperature range	T	-40/+85	°C	machine model, 1 pulse
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	200 ¹⁾	V	
Input power	P _{IN}	10	dBm	

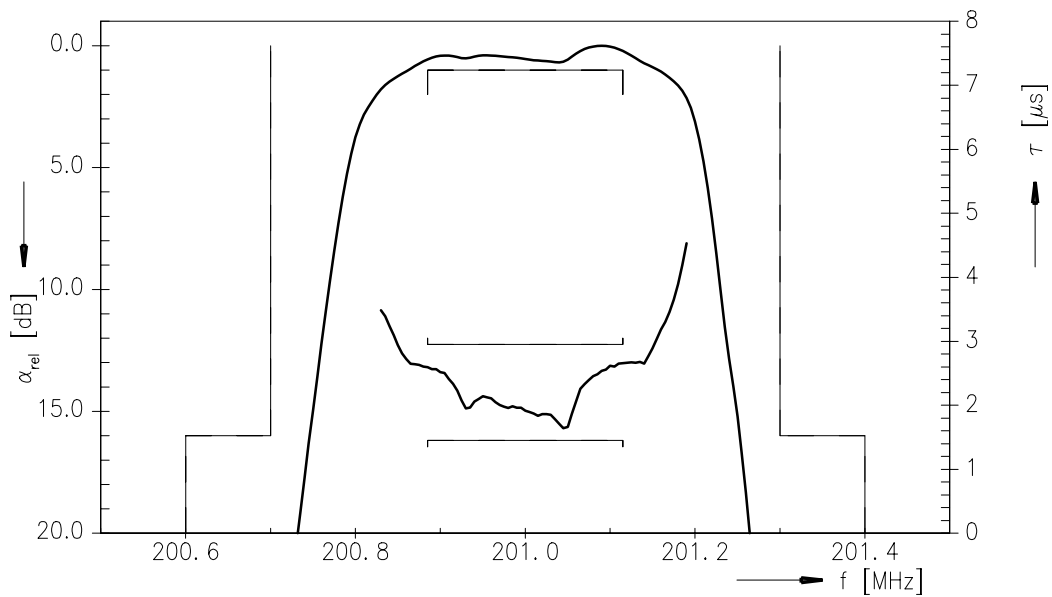
¹⁾ acc. to J-STD22A-0115A (machine model, 1 pulse +/-).



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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