



SAW Components

SAW IF filter

BWA

Series/type: B5250
Ordering code: B39141B5250H810

Date: Sep 17, 2012
Version: 2.0

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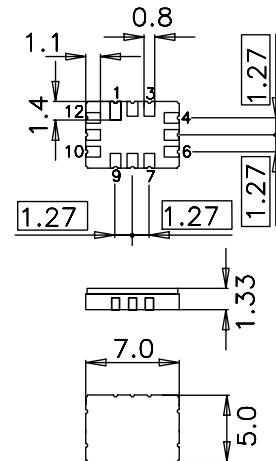
Data sheet

Application

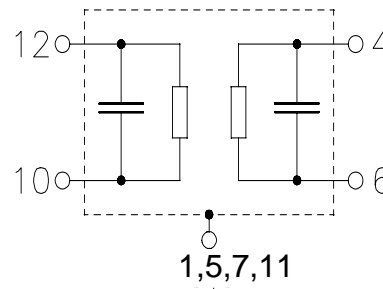
- Low-loss IF filter for BWA
- Usable passband 2.0 MHz
- Balanced operation


Features

- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- RoHS compatible
- Approx. weight 0.25 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated
- Moisture Sensitivity Level 1


Pin configuration

- 10 Input
- 12 Input ground or balanced input
- 4 Output
- 6 Output ground or balanced output
- 1, 5, 7, 11 Case Ground
- 2, 3, 8, 9 To be grounded



Data sheet

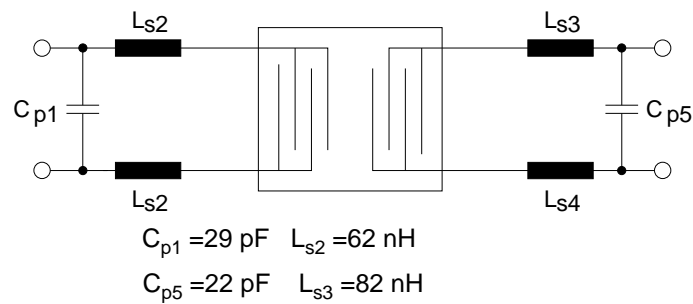

Characteristics

 Operating temperature range: $T = -35^{\circ}\text{C}$ to 80°C

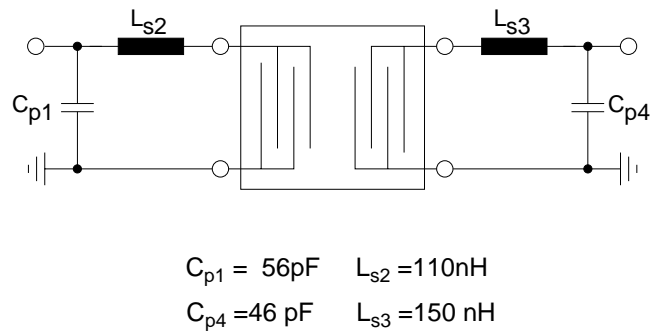
 Terminating source impedance: $Z_S = 200\ \Omega$ balanced or $50\ \Omega$ unbalanced and matching network

 Terminating load impedance: $Z_L = 200\ \Omega$ balanced or $50\ \Omega$ unbalanced and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	140.0	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min}	—	10.7	13	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_N \pm 0.5\ \text{MHz}$	—	0.4	1.0	dB
	$f_N \pm 1.0\ \text{MHz}$	—	1.7	3.0	dB
Absolute group delay	τ				
	$f_N \pm 0.5\ \text{MHz}$	—	0.84	—	μs
Group delay ripple (p-p)	$\Delta\tau$				
	$f_N \pm 0.5\ \text{MHz}$	—	50	120	ns
Triple transit suppression		35	43	—	dB
Return loss, input	$f_N \pm 1.0\ \text{MHz}$	12	16	—	dB
Return loss, output	$f_N \pm 1.0\ \text{MHz}$	12	21	—	dB
Relative attenuation (relative to α_{\min})	α_{rel}				
	10.000 MHz ... 135.50 MHz	40	48	—	dB
	135.50 MHz ... 137.50 MHz	28	35	—	dB
	142.50 MHz ... 145.50 MHz	28	35	—	dB
	145.50 MHz ... 152.00 MHz	38	42	—	dB
	152.00 MHz ... 425.00 MHz	45	56	—	dB
Temperature coefficient of frequency	TC_f	—	-0.036	—	ppm/ K^2


Matching network to 200 Ω Input balanced / 200 Ω Output balanced


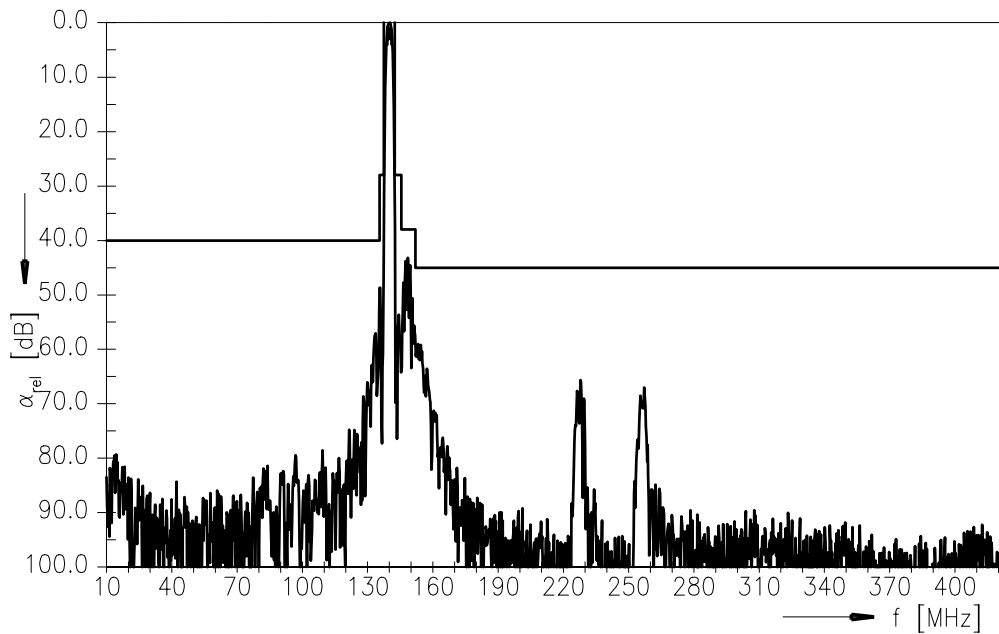
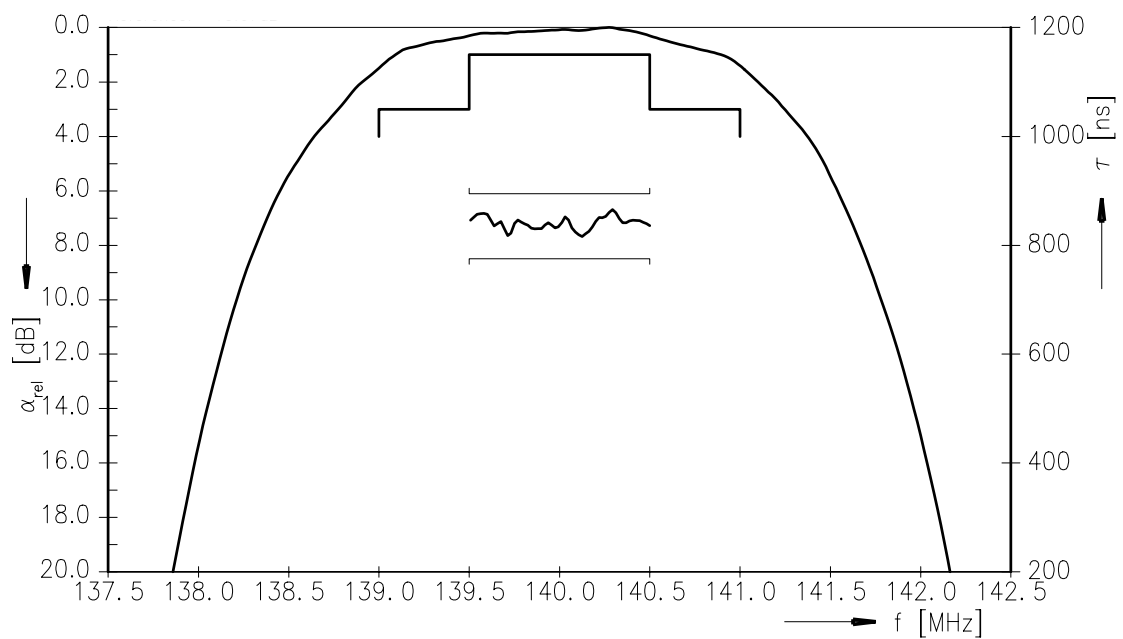
(matching element values depend on PCB layout)

Matching network to 50 Ω input unbalanced / 50 Ω output unbalanced


(matching element values depend on PCB layout)

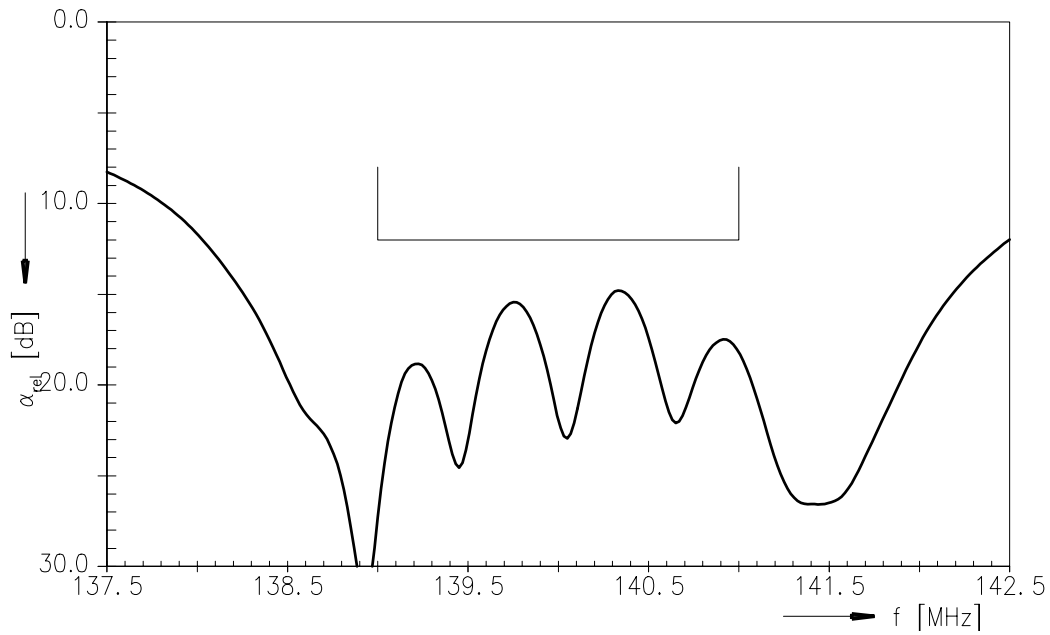
Maximum ratings

Operable temperature range	T	-40/+85	°C
Storage temperature range	T _{sta}	-40/+85	°C
DC voltage	V _{DC}	0	V
Input power	P _{IN}	10	dBm

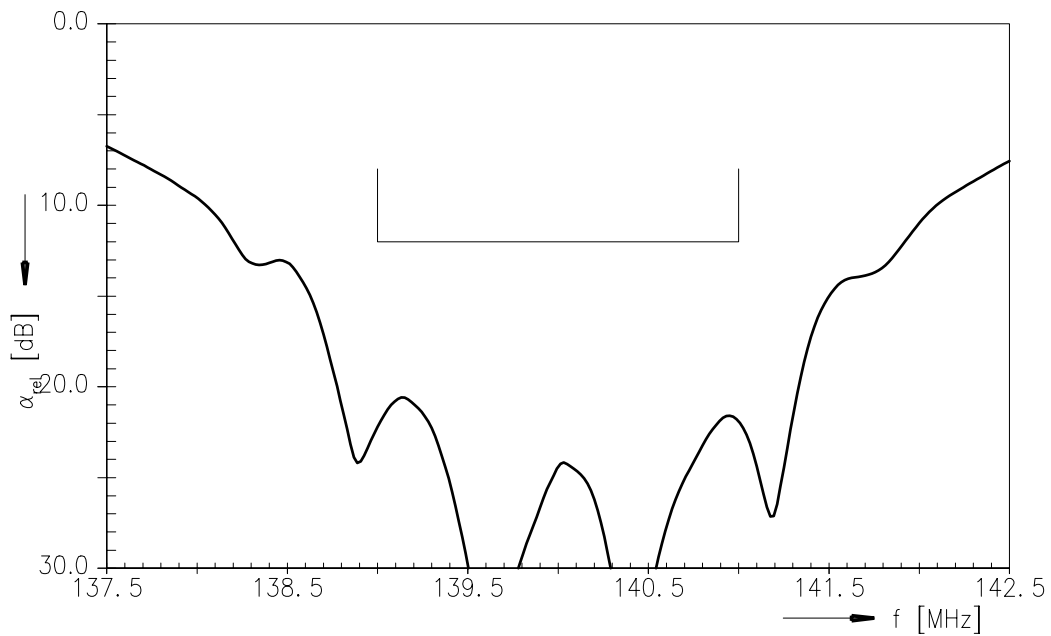
Transfer function (Wide band)

Transfer function (Passband)




Return loss (S11)

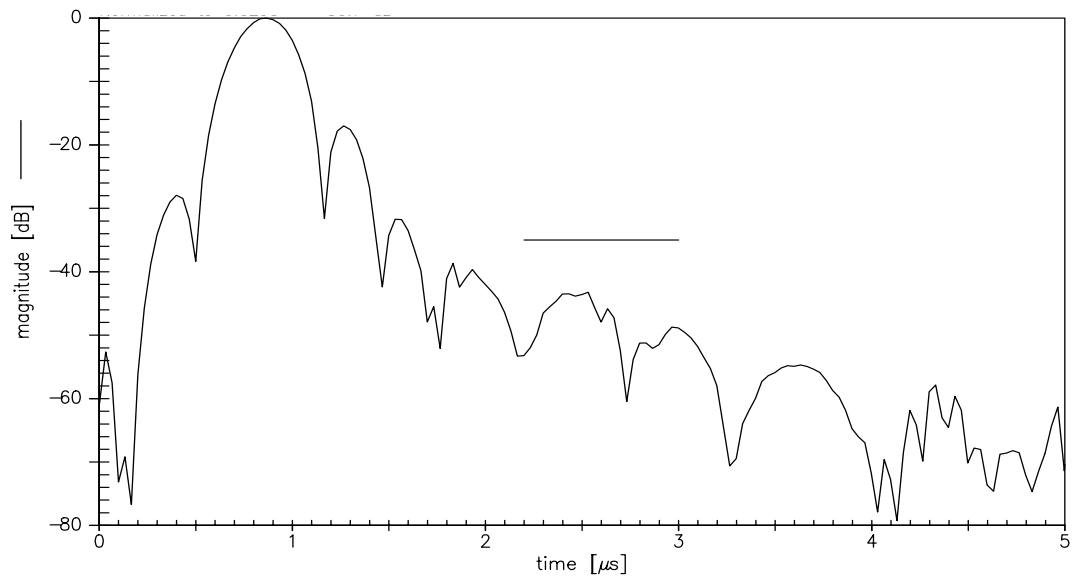


Return loss (S22)





Triple transit



SAW Components	B5250
SAW IF filter	140 MHz

Data sheet



References

Type	B5250
Ordering code	B39141B5250H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5250_NB.s2p, B5250_WB.s2p see file header for port/in assignment table
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."
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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