SAW Components

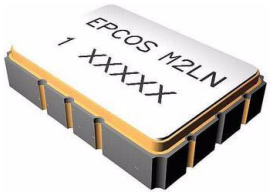
SAW IF filter

Satellite radio

Series/type:	**B1717**
Ordering code:	**B39121B1717H310**
Date:	August 07, 2006
Version:	1.1

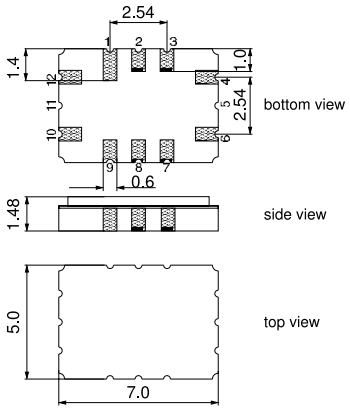
Application

- IF filter for digital radio
- Low insertion attenuation
- Constant group delay
- Balanced to balanced operation



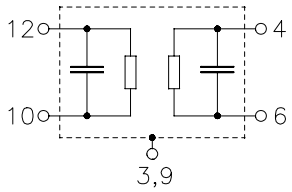
Features

- Package size 7.0 x 5.0 x 1.48 mm^3
- Maximum height of 1.63 mm
- Package code QCC12C
- RoHS compatible
- Approximate weight 0.250 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

■	10	Input
■	12	Input
■	4	Output
■	6	Output
■	3,9	Case – ground
■	1,2,7,8	To be grounded



Data sheet SMD

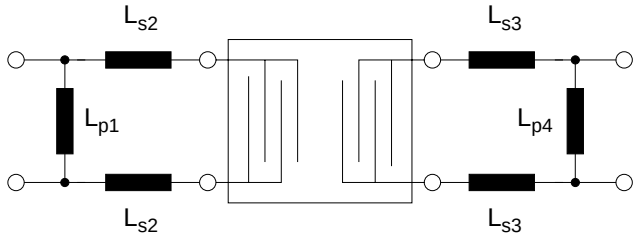
Characteristics

Operating temperature range: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 200 Ω and matching network
Terminating load impedance: Z_L = 200 Ω and matching network

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	115.18	—	MHz
Minimum insertion attenuation[1)]	α_{min}	—	14.2	15.7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
108.9300 ... 110.7875 MHz		—	0.3	1.3	dB
110.7875 ... 112.6450 MHz		—	0.2	1.2	dB
112.6450 ... 115.1550 MHz		—	0.3	1.2	dB
115.2050 ... 117.7150 MHz		—	0.2	1.2	dB
117.7150 ... 119.5725 MHz		—	0.2	1.2	dB
119.5725 ... 121.4300 MHz		—	0.5	1.3	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 1.5 dB	$B_{1.5dB}$	—	13.3	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	14.0	—	MHz
Attenuation (relative to α_{min})	α_{rel}				
Lower sidelobe					
90.000 ... 98.680 MHz		48.0	55.0	—	dB
98.680 ... 104.680 MHz		38.0	42.0	—	dB
Upper sidelobe					
124.180 ... 131.180 MHz		30.0	35.0	—	dB
131.180 ... 140.000 MHz		42.0	48.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
108.9300 ... 110.7875 MHz		—	20	—	ns
110.7875 ... 112.6450 MHz		—	20	—	ns
112.6450 ... 115.1550 MHz		—	20	—	ns
115.2050 ... 117.7150 MHz		—	30	—	ns
117.7150 ... 119.5725 MHz		—	30	—	ns
119.5725 ... 121.4300 MHz		—	55	—	ns
Temperature coefficient of frequency	TC_f	—	–18	—	ppm/K

1) Including losses in the matching network
Inductor type TOKO LL1005FHL

Matching network to 200 Ω (element values depend on PCB layout)

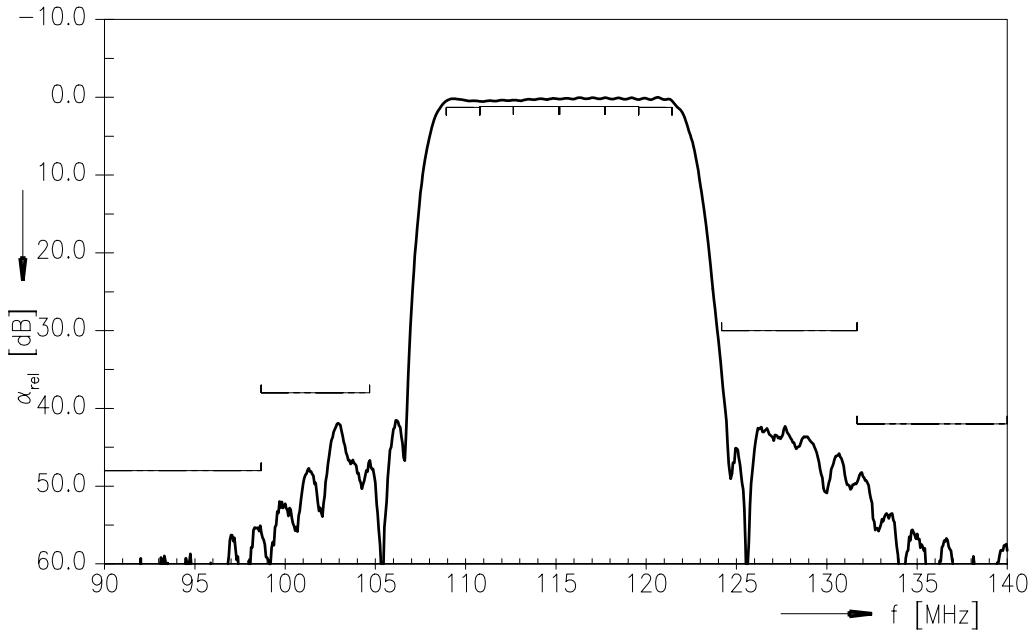


L_{p1} = 56 nH
L_{s2} = 18 nH
L_{s3} = 27 nH
L_{p4} = 68 nH

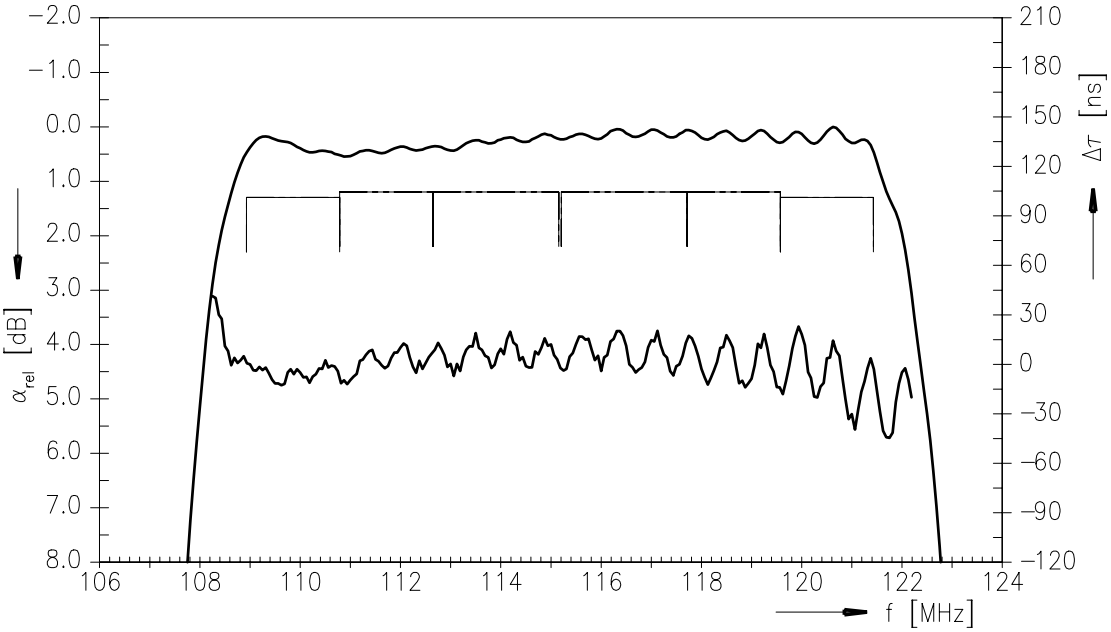
Maximum ratings

Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_S	10	dBm	

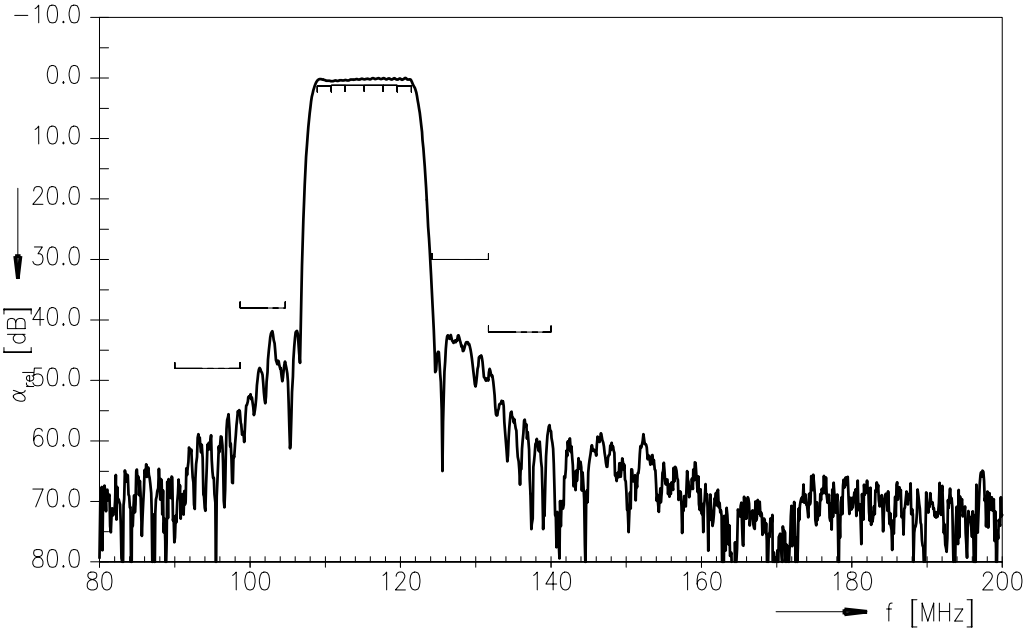
Transfer function



Transfer function (pass band)



Transfer function (wide band)



References

Type	B1717
Ordering code	B39121B1717H310
Marking and package	C61157-A7-A95
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B1717_NB_UN.s4p B1717_WB_UN.s4p
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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Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY

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