



SAW Components

SAW IF filter

LTE

Series/type:	B5239
Ordering code:	B39151B5239H810
Date:	Jan 28, 2011
Version:	2.0



SAW Components

B5239

SAW IF filter

153.6 MHz

Data Sheet



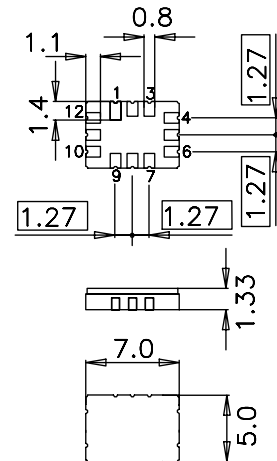
Application

- Wide band, low-loss IF filter for LTE
- Usable passband 40 MHz



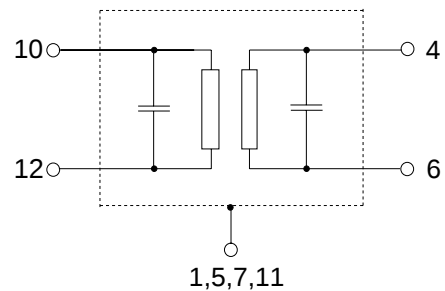
Features

- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- RoHS compatible
- Approx. weight 0.2 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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





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Characteristics

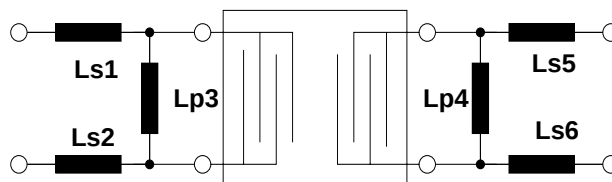
Operating temperature range:	$T = -40$ to 85 °C
Terminating source impedance:	$Z_S = 200\ \Omega$ and matching network
Terminating load impedance:	$Z_L = 150\ \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	153.6	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	—	12.2	13.5	dB
Amplitude ripple (p-p) $f_N \pm 20.8\text{ MHz}$	$\Delta\alpha$	—	0.7	1.2	dB
Amplitude ripple (p-p) In any segment of 20MHz in 40MHz	$\Delta\alpha$	—	0.7	1.0	dB
Group delay ripple (p-p) $f_N \pm 20.8\text{ MHz}$	$\Delta\tau$	—	0.033	0.06	μs
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
10.0 MHz ... 72.0 MHz		55	60	—	dB
72.0 MHz ... 113.6 MHz		45	52	—	dB
113.6 MHz ... 123.6 MHz		40	47	—	dB
183.6 MHz ... 202.6 MHz		38	45	—	dB
202.6 MHz ... 276.0 MHz		50	55	—	dB
276.0 MHz ... 430.0 MHz		45	50	—	dB
430.0 MHz ... 1000.0 MHz		55	60	—	dB
Return loss, input $f_N \pm 20.8\text{ MHz}$		6.0	7.8	—	dB
Return loss, output $f_N \pm 20.8\text{ MHz}$		5.5	6.8	—	dB
Temperature coefficient of frequency	TC_f	—	-87	—	ppm/K



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Matching network to 200 Ω balanced/ 150 Ω balanced



Ls1=Ls2=120nH, Lp3=140nH, Lp4=220nH, Ls5=Ls6=110nH.

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}	20	dBm	



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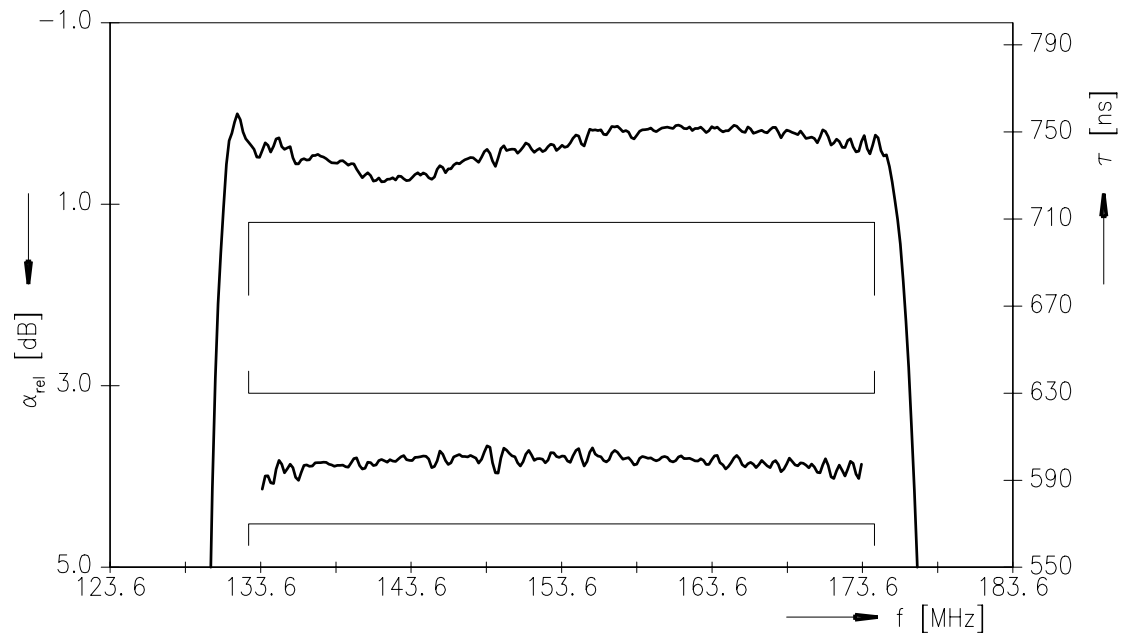
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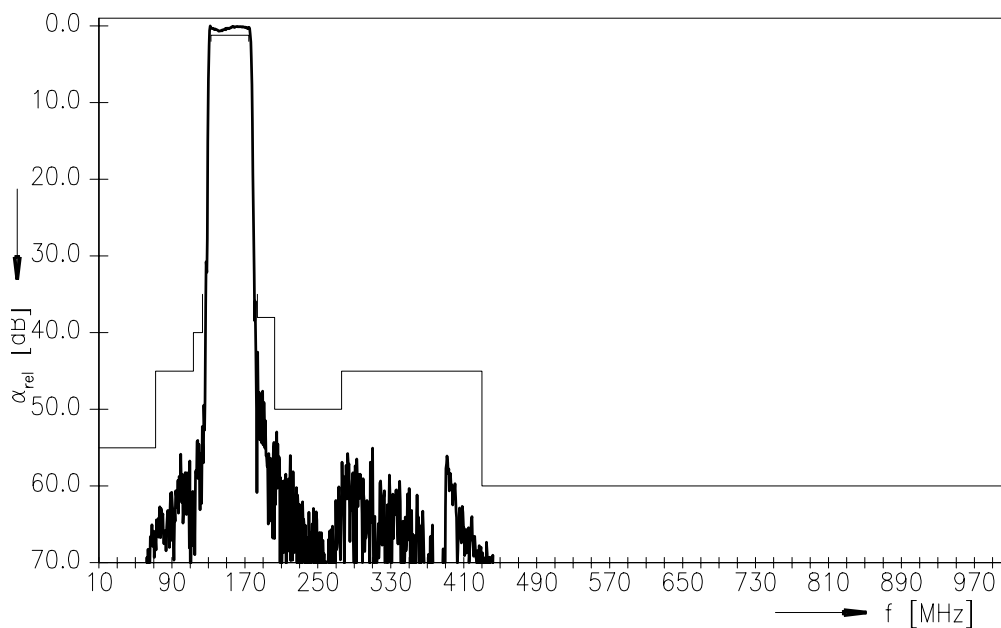
Data Sheet

SMD

Transfer function



Transfer function (wideband)



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



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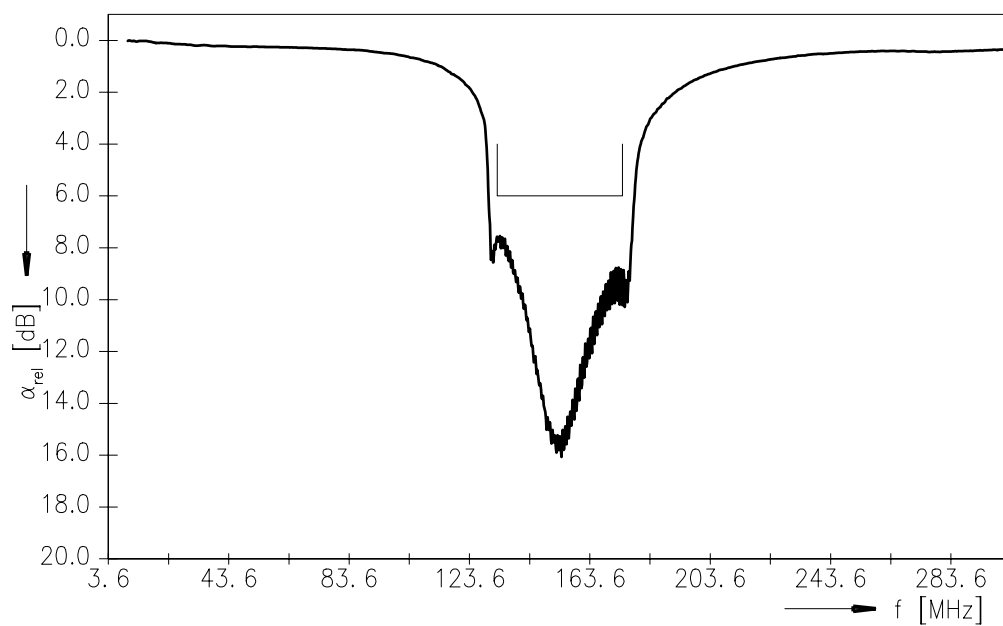
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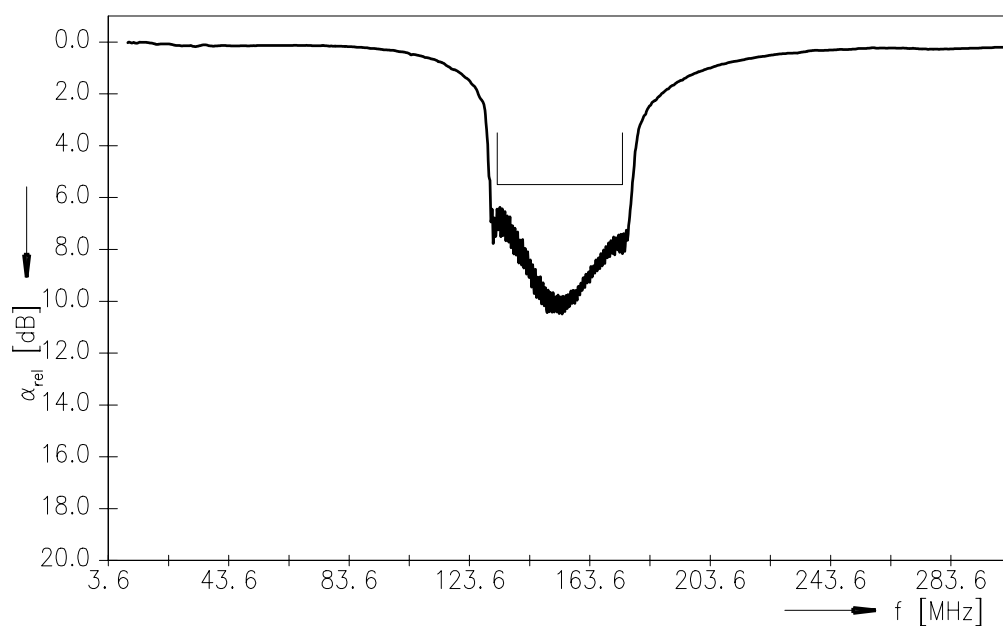
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SMD

Input return loss



Output return loss



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**References**

Type	B5239
Ordering code	B39151B5239H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5239_NB.s2p, B5238_WB.s2p
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

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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