SAW Components

SAW IF filter

TD-SCDMA

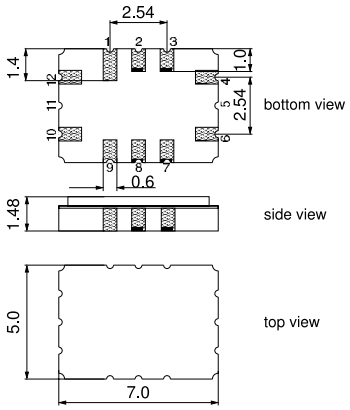
Series/type:	**B5227**
Ordering code:	**B39141B5227H310**
Date:	January 12, 2010
Version:	2.0

Application

- Low-loss IF filter for TD-SCDMA base station
- Usable passband 15.0 MHz

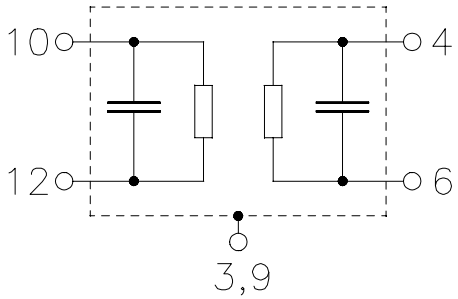
Features

- Package size 7.0 x 5.0 x 1.48 mm³
- Package code QCC12C
- RoHS compatible
- Approximate weight 0.25 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Filter surface passivated



Pin configuration

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



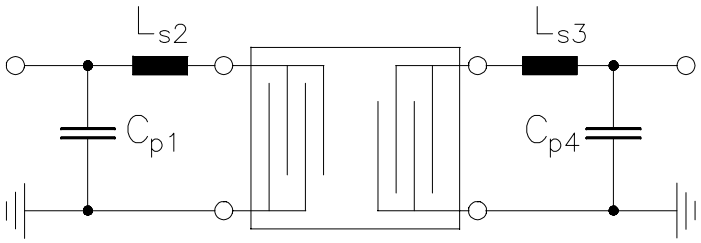
Data sheet SMD

Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	138.24	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	7.8	10	dB
Passband width					
$\alpha_{rel} \leq$ 1.0 dB	$B_{1.0dB}$	15	17.3	—	MHz
$\alpha_{rel} \leq$ 3.0 dB	$B_{3.0dB}$	16	18.5	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm$ 7.5 MHz		—	0.5	1.0	dB
$f_N \pm$ 8.0 MHz		—	0.5	3.0	dB
Phase ripple (p-p)	$\Delta\varphi$				
$f_N \pm$ 7.5 MHz		—	4	—	°
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm$ 7.5 MHz		—	50	140	ns
Absolute group delay (mean)	τ				
$f_N \pm$ 7.5 MHz		—	0.7	1.3	µs
Relative attenuation (relative to α_{min})	α_{rel}				
10.00 MHz ... 50.00 MHz		50	60	—	dB
50.00 MHz ... 125.74 MHz		40	50	—	dB
150.74 MHz ... 160.00 MHz		37	45	—	dB
160.00 MHz ... 300.00 MHz		40	55	—	dB
300.00 MHz ... 500.00 MHz		45	65	—	dB
Return loss (input and output)					
$f_N \pm$ 7.5 MHz		8	10	—	dB
Input IP3		35	—	—	dBm
Temperature coefficient of frequency	TC_f	—	–87	—	ppm/K

Matching network to 50 Ω



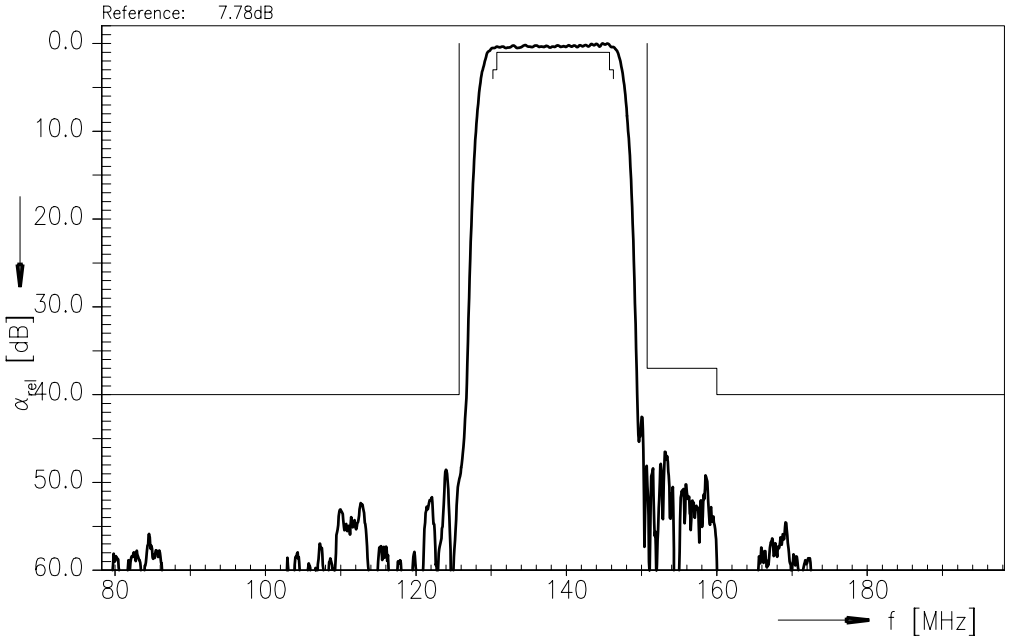
C_{p1} = 22 pF
L_{s2} = 82 nH
L_{s3} = 43 nH
C_{p4} = 47 pF

Element values depend upon board layout and properties.

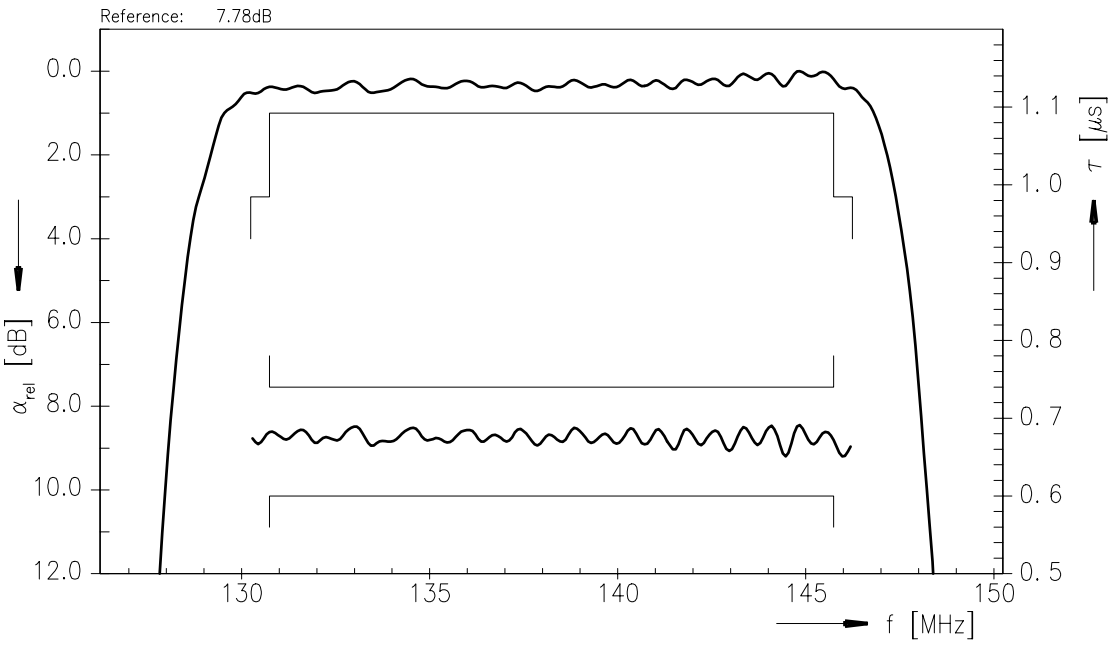
Maximum ratings

Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
Input Power	P_{IN}	10	dBm	

Transfer function



Transfer function (passband)



References

Type	B5227
Ordering code	B39141B5227H310
Marking and package	C61157-A7-A95
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5227_NB.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."

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