

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

### **SAW Components**

### SAW IF filter for base stations

Series/type: B5087 Ordering code: B39191B5087H810

Date: Version: Mar 21, 2016 2.3

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SAW Components		B5087
SAW IF filter		192.0 MHz
Data sheet	SMD	
Application		

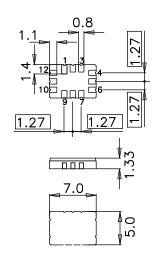
### Application

- Low-loss IF filter for WCDMA base station
- Usable passband 60 MHz
- Balanced or unbalanced operation possible



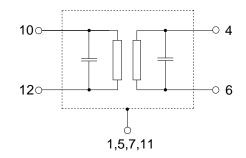
### Features

- Package size 7.0 x 5.0 x 1.33 mm<sup>3</sup>
- 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



#### **Pin configuration**

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



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

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SAW Components					
SAW IF filter					192
Data sheet	SM	D			
Characteristics					
Operating temperature range: Terminating source impedance: Terminating load impedance:	Z <sub>S</sub> =		85 °C nd matchii nd matchii		
		min.	typ. @ 25 ℃	max.	
Nominal frequency	f <sub>N</sub>		192.0		MHz
Minimum insertion attenuation (including matching network)	$lpha_{min}$		15.2	16.0	dB
Passband width $\alpha_{rel} \leq 1.2 \text{ dB}$	B <sub>1.2dB</sub>	60.0	64.7	_	MHz
Amplitude ripple (p-p) f <sub>N</sub> ± 30 MHz	Δα	_	0.6	1.2	dB
Group delay ripple (p-p) f <sub>N</sub> $\pm$ 30 MHz	Δτ		30	60	ns
Mean value of absolute group delay $\rm f_N\pm30~MHz$	τ		550	_	ns
Relative attenuation (relative to α <sub>min</sub> )   10.0 MHz 145.5 MHz   238.5 MHz 450.0 MHz   450.0 MHz 770.0 MHz   770.0 MHz  1000.0 MHz	<u>.</u>	40 40 35 40	47 49 46 66	  	dB dB dB dB
Temperature coefficient of frequency	TC <sub>f</sub>		-87	_	ppm/K

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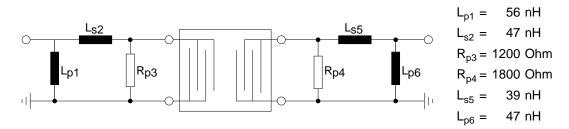


SAW Components	B5087
SAW IF filter	192.0 MHz

Data sheet

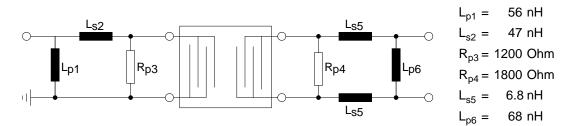
SMD

Matching network to 50  $\Omega$  (input unbalanced) and 50  $\Omega$  (output unbalanced)



Element values depend upon PCB layout.

#### Alternative matching network to 50 $\Omega$ (input unbalanced) and 150 $\Omega$ (output balanced)



Element values depend upon PCB layout.

#### Maximum ratings

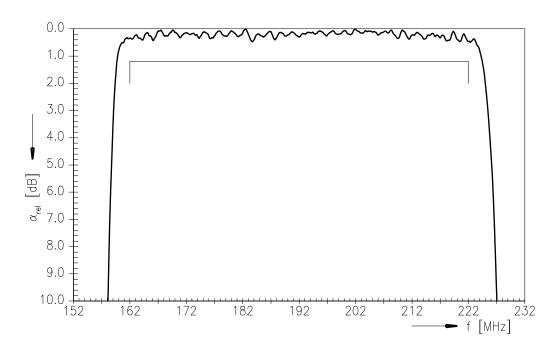
Operable temperature range	Т	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	200 <sup>1)</sup>	V	Machine Model
		350 <sup>2)</sup>		Human Body Model
Input power	P <sub>IN</sub>	10	dBm	

<sup>1)</sup> acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

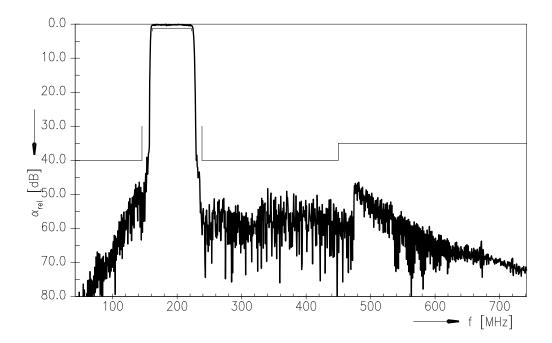
<sup>2)</sup> acc. to JESD22-A114F (HBM - Human Body Model), 1 negative & 1 positive pulse

SAW Components		B5087
SAW IF filter		192.0 MHz
Data sheet	SMD	

**Transfer function** 



Transfer function (wideband)



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**SAW Components** 

192.0 MHz

B5087

Data sheet

SAW IF filter

SMD

#### References

Туре	B5087	
Ordering code	B39191B5087H810	
Marking and package	C61157-A7-A103	
Packaging	F61074-V8170-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 maxi- mum 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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