



**DATA SHEET**

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O K I C O M M U N I C A T I O N S P R O D U C T S

**MBF9411B/9412B**  
**Surface Acoustic Wave (SAW) Filters**  
**for Mobile and Portable Phones**

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**September 1998**



**Oki Semiconductor**



# Oki Semiconductor

## MBF9411B/9412B

### Surface Acoustic Wave (SAW) Filters

#### DESCRIPTION

The new MBF9411B/9412B Surface Acoustic Wave (SAW) filters use Oki's third generation design and manufacturing technology to achieve a high out-of-band attenuation, low insertion loss, and low manufacturing cost in an industry standard 6-pin package, 1.2-mm thick and 3.0-mm square.

These 50- $\Omega$  matched bandpass microwave RF filters are designed for the worldwide standard wireless voice and data communications frequencies being used by cellular and wireless local-loop service providers. They have achieved design acceptance by leading wireless handset manufacturers in North America, Europe, and Asia.

Oki's lowest insertion loss SAW filters and high performance GaAs devices are used to reduce transmitter complexity. Receiver designs can be simplified by using the higher Tx frequency attenuation SAW filters.

These devices take advantage of Oki's 16-year plus RF communications component manufacturing experience and very high volume manufacturing capability to meet customer demands.

#### FEATURES

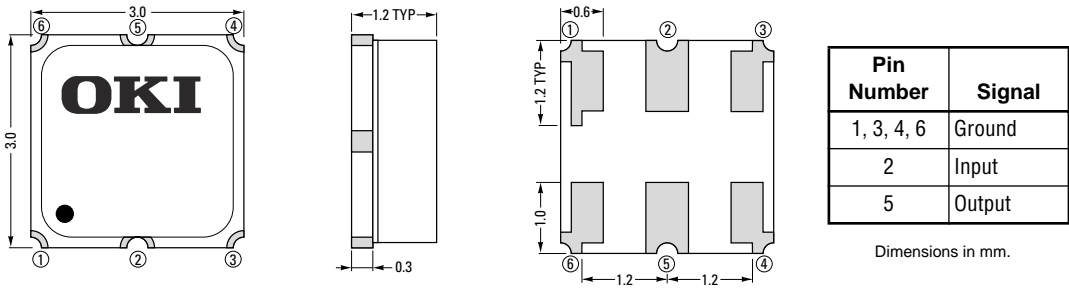
- Low insertion loss
- Small size, light weight
- 50- $\Omega$  matched
- 6-pin SMD package
- High reliability

#### SAW Filter Summary <sup>[1]</sup>

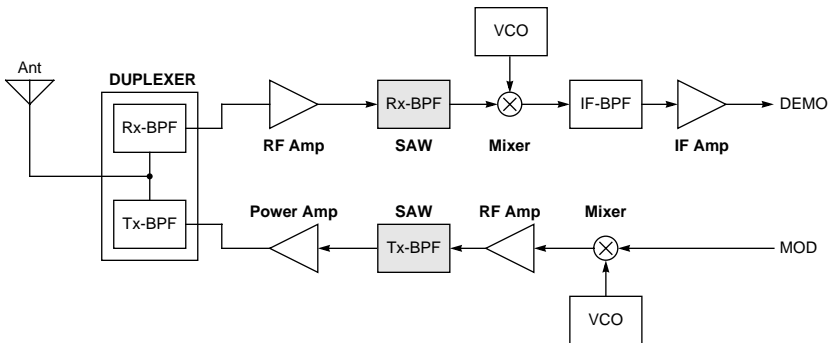
Part Number	Description	Pass Frequency (MHz)	Insertion Loss (dB)	Stop Frequency (MHz)	Attenuation (dB)
MBF9411B	CDMA Transmit Filter	824 to 849	<3.5	869 to 1049	>30
MBF9412B	CDMA Receive Filter	869 to 894	<3.5	779 to 849	>30

1. All parts in 6-pin ceramic square package (3.0 mm x 3.0 mm) by 1.2-mm thick with system matched 50- $\Omega$  I/O

## PIN CONFIGURATION



## BLOCK DIAGRAM



## ELECTRICAL CHARACTERISTICS

### MBF9411B Electrical Characteristics (-40 to +85°C)

Parameter	Frequency (MHz)	Min.	Max.	Units
Center Frequency (F <sub>C</sub> )	Fr 836.5	–	–	MHz
Bandwidth (BW)	Fr ±12.5	–	–	MHz
Insertion Loss across BW	824 to 849	–	3.5	dB
Return Loss across BW		8.5	–	dB
Stop Band Attenuation	0.3 to 850	28	–	dB
	869 to 1049	30	–	dB
	1049 to 2000	20	–	dB
Terminating Impedance		–	50	ohms

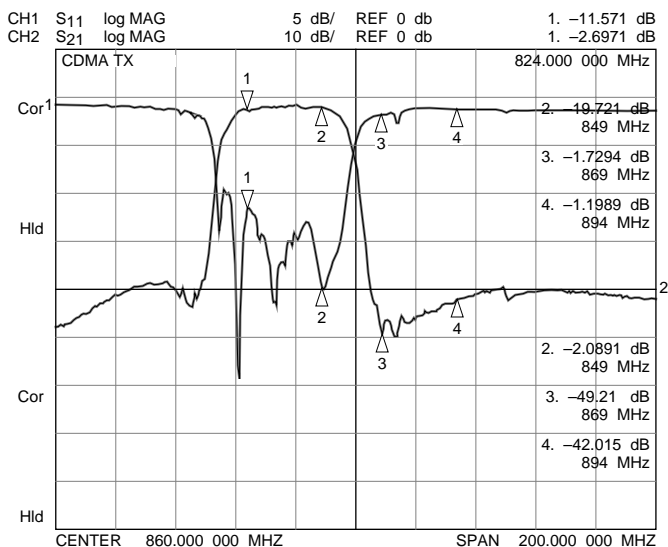
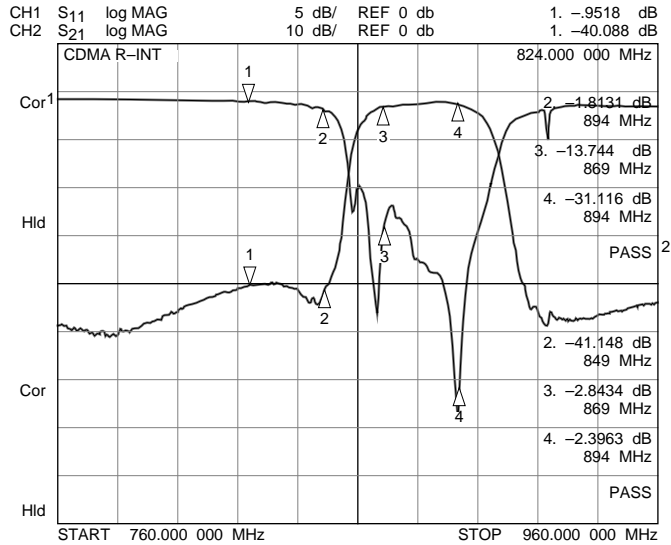


Figure 1. MBF9411B Frequency Response

**MBF9412B Electrical Characteristics (-30 to +85°C)**

Parameter	Frequency (MHz)	Min.	Max.	Units
Center Frequency ( $F_C$ )	Ft 881.5	-	-	MHz
Bandwidth (BW)	Fr $\pm$ 12.5	-	-	MHz
Insertion Loss across BW	869 to 894	-	3.5	dB
Ripple across BW		-	2.0	dB
VSWR across BW		-	2.0	dB
Stop Band Attenuation		500 to 779	25	-
	779 to 849	30	-	dB
	914 to 939	20	-	dB
	939 to 1049	35	-	dB
	1049 to 2000	25	-	dB
Terminating Impedance		-	50	ohms



**Figure 2. MBF9412B Frequency Response**

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Please make sure before using the product that the information you are referring to is up-to-date.

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