

## QFN Hybrid Switched filter bank

LW48-797series

### TYPICAL APPLICATIONS

The miniature Filter assembly is ideal for:

- RADAR
- EW
- Military Comms and datalinks
- Test and Measurement

### PRODUCT FEATURES

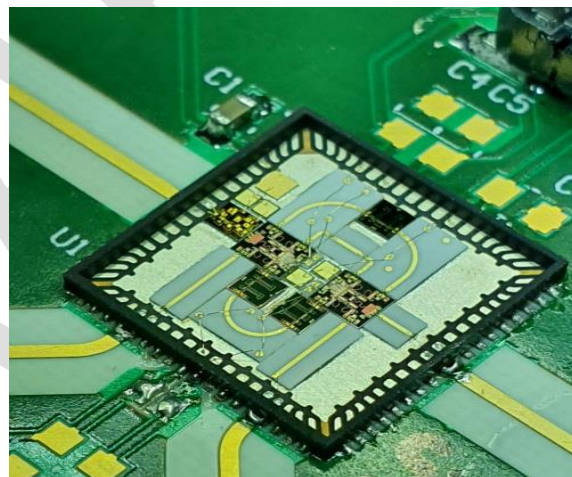
- Built-In LNA/Limiter/SP4T
- MMIC Based Filters
- Broad band operation for design re-use
- High isolation
- Custom package and filter options
- QFN standard packages for low start up cost

### GENERAL DESCRIPTION

Custom Microwave Hybrid in a standard QFN10 package, unit is fully matched to 50ohm. Design is integrated with LNA/Limiter/ GaAs Switch and custom Filter functions specific to bands of interest. Base design is broad band allowing customer selection of filter frequency in the 6 to 18GHz band and up to 10% bandwidth. Solutions allow users to shrink high Q filter space and take advantage of matched supporting components for optimum performance.

Alternate design options with custom features and filters up to 30GHz are available on request.

Evaluation board available



### ELECTRICAL CHARACTERISTICS - Operational $T_A = 21\text{ }^\circ\text{C}$ , $\pm 5\text{ V}_{DC}$ , 50 $\Omega$ System (unless otherwise noted)

PARAMETER	MIN	TYP	MAX	UNITS
Operating Frequency Range	6		18	GHz
Gain in switched path	+13	+14		dB
Noise Fig			2.5	dB
Switch speed			100	nS
Filter 1dB bandwidth	1.25			GHz
Rejection		-50		dB
RF Max I/P			+12	dBm

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**ELECTRICAL CHARACTERISTICS - Operational**  $T_A = 21\text{ }^\circ\text{C}$ , 50 $\Omega$  System (unless otherwise noted)

PARAMETER	MIN	TYP	MAX	UNITS
Max current 5V			150	mA
Max current -5V			10	
Supply	4.75		5.25	V

**CONTROL CHARACTERISTICS AND ADVANCED FEATURES**

PARAMETER	VALUE
Control 1-4	Pin 27/28/66/68
Control max V	-0.5 / +1.0V
RF IN	Pin 9&10
RF OUT	Pin 45&46

**MECHANICAL CHARACTERISTICS**

PARAMETER	VALUE	UNITS
Package size	QFN 10x10mm	mm
RF In /Out	50 Ohms	Ohms
Ground connection	Pins 8/11/ 44/47 & Back paddle	
All NC pins to be grounded		

**ENVIRONMENTAL CHARACTERISTICS**

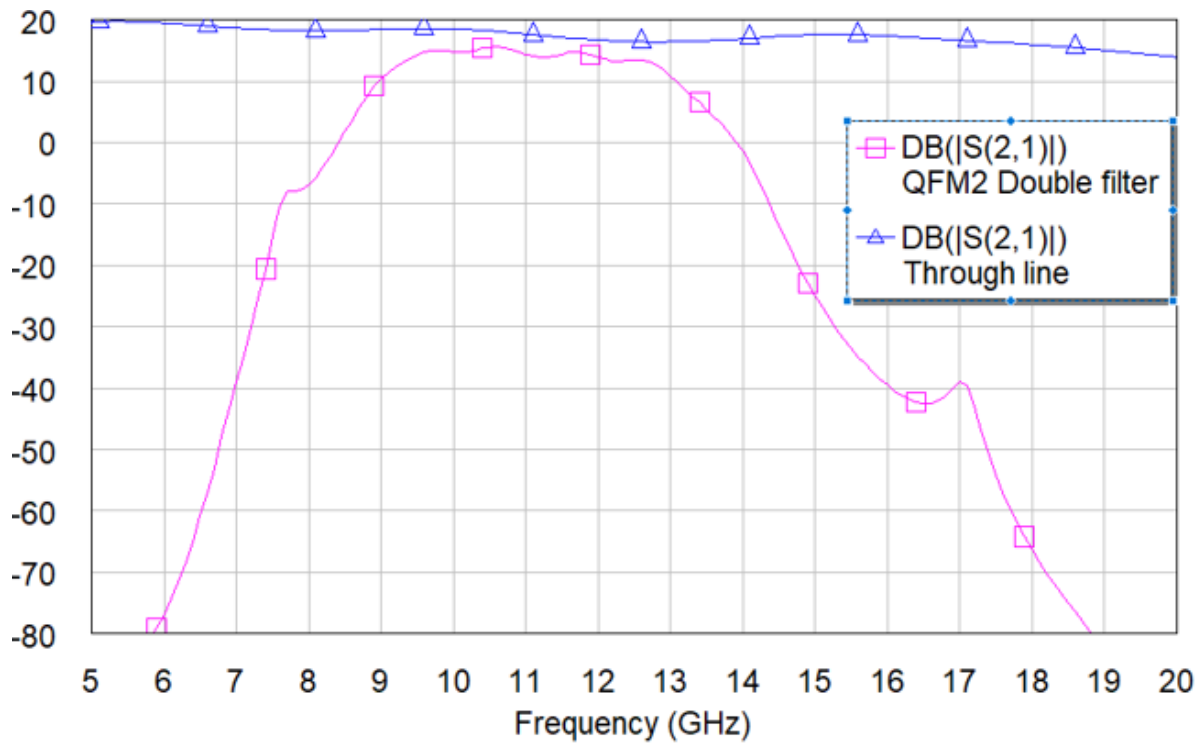
PARAMETER	MIN	TYP	MAX	UNITS
Operating Temp	-40		+70	$^\circ\text{C}$
Storage Temp	-55		+150	$^\circ\text{C}$
Vibration MIL-STD-810g:514.7	0.04g <sup>2</sup> /Hz 10Hz to 2000Hz.			
Mech Shock	20G 11mS			

**ESD Precautions.**

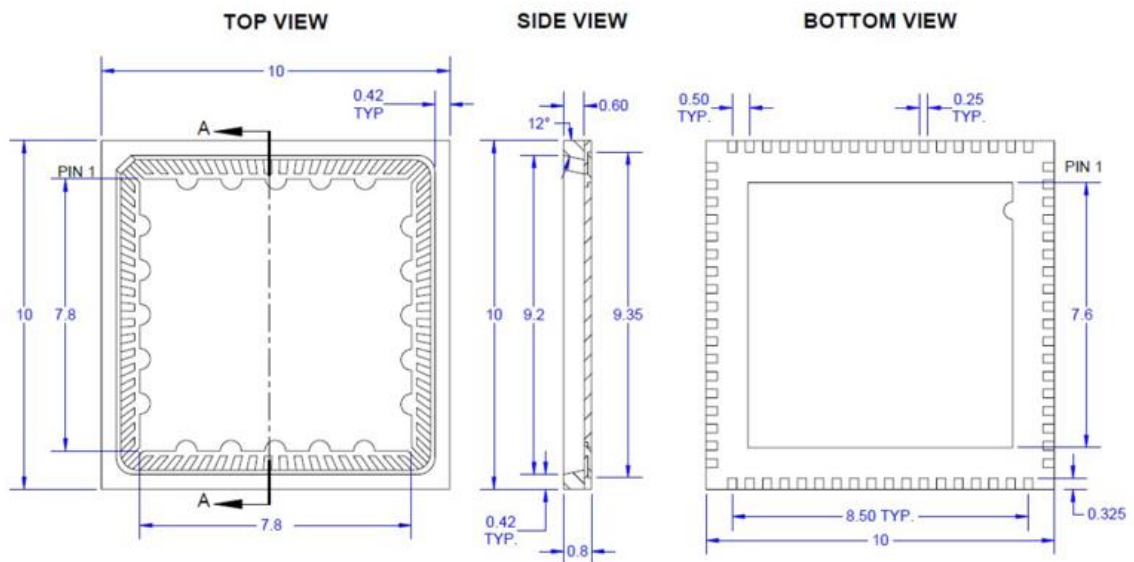
Observe standard precautions when handling ESD-sensitive devices.

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### Example Filter performance



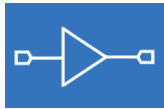
### OUTLINE DRAWING



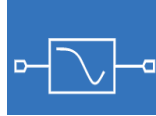
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### Custom Solutions:

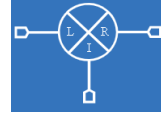
Select the line up you need frequency of operation and target performance for bespoke solution quotations



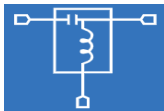
**Amplifier**



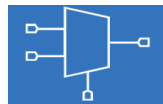
**Limiter**



**Mixer**



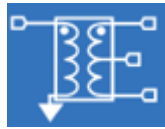
**Bias T**



**Switch**



**Equaliser**



**Balun**

DRAFT

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