FTF4863

Monolithic Crystal Filter

Part number: 4863 | Revision: A3 | Date: 10 Febuary 2025

1.0 Main parameters

N°	Characteristics	Symbol	Value	Unit	Note
1.1	Nominal centre frequency	fc	70.0	MHz	±1.8 kHz
1.2	Stability of Fc vs. OTR		<1.8	kHz	
1.3	Number of poles		4		

2.0 Insection loss

N°	Characteristics	Symbol	Min.	Nom.	Max.	Unit	Note
2.1	Insertion Loss (IL) at fc	IL			6.0	dB	

3.0 Passband

N°	Characteristics	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
3.1	Bandwidth between 3dB frequencies		3	dB	-6.25	+6.25	kHz	Referred to f_c
3.2	Group delay distortion		≤40	µs	-6.25	+6.25	kHz	Referred to f_c

4.0 Ripple over

N°	Characteristics	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
4.1	Ripple over		≤1.0	dB	-4.0	+4.0	kHz	Referred to fc

5.0 Stopband

N°	Characteristics	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
5.1	StopBand 1		≥13	dB	-12.5	+12.5	kHz	
5.2	StopBand 2		≥50	dB	-80	+80	kHz	
5.3	Alternate attenuation		≥75	dB	-910	+910	kHz	
5.4	Spurious response		≥40	dB				

6.0 Matching

N°	Characteristics	Symbol	Resistance	Unit	Capacitance	Unit	Note
6.1	Input and output		500	Ω	3	pF	
6.2	Coupling capacitance				9	pF	

7.0 Temperature range

N°	Characteristics	Symbol	Min.	Nom.	Max.	Unit	Note
7.1	Operating	OTR	-40		85	°C	
7.2	Storage	STR	-45		85	°C	

8.0 Inband intermodulation (IP3 > 10 dBm)

N°	Characteristics	Symbol	Value	Unit	Note
8.1	Frequency 1		70.0025	MHz	
8.2	Frequency 2		69.9975	MHz	
8.3	Input power level		-10	dBm	
8.4	IM		>40	dB	

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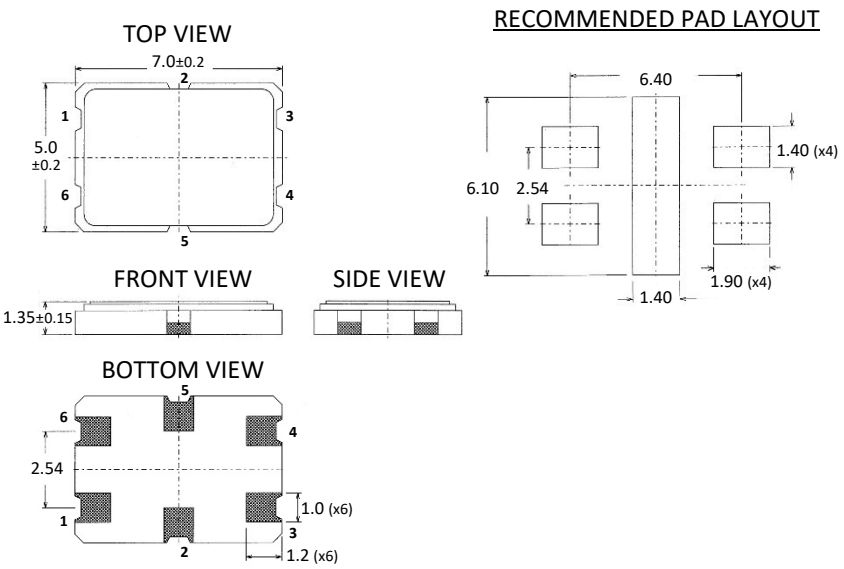
9.0 Package, marking and pin connections

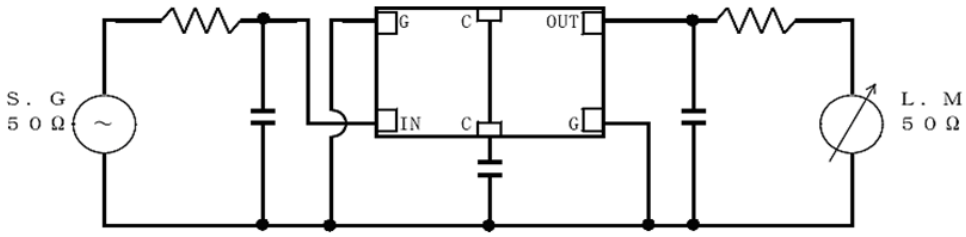
N°	Characteristics	Specifications	Model outline drawing
9.1	Package type	SMD, 7.0 x 5.0 mm	
9.2	Marking	Line 1: FTF4863 Line 2: 105932 Line 3: YWW (Date code)	
9.3	Pin connections	Pin 1: Input Pin 2, 5*: Coupling capacitance Pin 4: Output Pin 3, 6: GND * Pins 2 and 5 are not physically connected in the package and must be connected together on the PCB.	

Unit: mm



10.0 Test circuit

N°	Test circuit diagram
10.1	



11.0 Specification History

Revision	Change notes	Date
A0	Preliminary Datasheet creation	Aug, 20th 2015
A1	Re-branding Rakon to RakonXpress	Jan, 25th 2023
A2	Specification line 5.2: Corrected the nominal specification value typo for StopBand 2 to ≥50 dB	Sep, 23rd 2024
A3	Updated pin labels from 1 to 6	Feb, 10th 2025

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