

# FTF4820

## Monolithic Crystal Filter

Part number: 4820 | Revision: A1 | Date: 22 January 2023



### 1.0 Main parameters

N°	Characteristics	Symbol	Value	Unit	Note
1.1	Nominal centre frequency	$f_c$	70	MHz	
1.2	Number of poles		6		fundamental mode

### 2.0 Insertion loss

N°	Characteristics	Symbol	Min.	Nom.	Max.	Unit	Note
2.1	Insertion Loss (IL)	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	-12.5	+12.5	kHz	

### 4.0 Ripple over

N°	Characteristics	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
4.1	Ripple over		$\leq 1.0$	dB	-8.0	+8.0	kHz	Referred to $f_c$

### 5.0 Stopband

N°	Characteristics	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
5.1	StopBand 1		$\geq 40$	dB	-30.0	+30.0	kHz	Referred to $f_c$
5.2	StopBand 2		$\geq 50$	dB	-50.0	+50.0	kHz	Referred to $f_c$
5.3	Alternate attenuation		$\geq 80$	dB				Except spurious

### 6.0 Matching

N°	Characteristics	Symbol	Resistance	Unit	Capacitance	Unit	Note
6.1	Input and output		50	$\Omega$	0	pF	

### 7.0 Temperature range

N°	Characteristics	Symbol	Min.	Nom.	Max.	Unit	Note
7.1	Operating	OTR	-20		70	$^{\circ}\text{C}$	
7.2	Storage	STR	-40		85	$^{\circ}\text{C}$	

### 8.0 Group delay

N°	Differential group delay	Symbol	Nom.	Unit	$-\Delta F_{min}$	$+\Delta F_{max}$	Unit	Note
8.1	Variation in band 1		$< 20$	$\mu\text{s}$	-10	+10	kHz	Referred to $f_c$
8.2	Variation in band 1		$< 50$	$\mu\text{s}$	-12.5	+12.5	kHz	Referred to $f_c$

### 9.0 Input level

N°	Characteristics	Symbol	Value	Unit	Note
9.1	Operating		0	dBm	
9.2	Before destruction		+10	dBm	

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### 10.0 Package and marking

N°	Characteristics	Specifications	Model outline drawing
10.1	Package type	BF53 (25.1 x 14.1 mm)	
10.2	Package height	10.5 mm max	
10.3	Pin length	4.0 mm min.	
10.4	Marking	Line 1: RAKON YYWW Line 2: FTF4820/70.0MHz	

### 11.0 Test circuit

N°	Test circuit diagram
11.1	

### 12.0 Specification History

Revision	Change notes	Date
A0	Preliminary Datasheet creation	Jan, 26 <sup>th</sup> 2018
A1	Re-branding Rakon to RakonXpress	Jan, 22 <sup>nd</sup> 2023