



COAXIAL

# Matching Pad

## SFQFM-5075+

Mini-Circuits

50Ω / 75Ω DC to 3000 MHz

### THE BIG DEAL

- Minimum Loss Pad
- Wideband Coverage, DC to 3000 MHz
- Quick Connect / Disconnect Mating on F-Male Side
- Excellent Return Loss
- Rugged Unibody Construction



*Generic photo used for illustration purposes only*

<b>Model No.</b>	SFQFM-5075+
<b>Case Style</b>	FF2586
<b>Connectors</b>	50Ω Female - SMA 75Ω Male - F connector

### APPLICATIONS

- Impedance Matching
- Lab Use for Testing

#### +RoHS Compliant

The +Suffix identifies RoHS Compliance.  
See our website for methodologies and qualifications

### PRODUCT OVERVIEW

Mini-Circuits' SFQFM-5075+ is a coaxial 50/75Ω matching pad covering the DC to 3000 MHz frequency range, supporting impedance matching in a wide range of systems. This model is ideal for 50/75Ω impedance matching in systems where minimizing overall signal loss is a priority. The matching pad housed in a rugged unibody construction with SMA-Female (50Ω) to F-Male (75Ω) connectors.

**!** CAUTION NOTE: Due to variability of female 'F' connector, make sure that the threads start no more than 0.030" (0.76) from the edge of the connector to mate with the matching pad.

### KEY FEATURES

Feature	Advantages
Wideband, DC to 3000 MHz	Supports a wide variety of applications including CATV and DOCSIS® 3.1 systems and equipment.
Compact size, 0.39" x 1.56" x 0.43"	Accommodates tight space requirements for crowded system layouts.
Connectorized package SMA Female (50Ω) to F-Male (75Ω) connectors	Supports connections between components with different connector types.

REV. D  
ECO-016286  
SFQFM-5075+  
EDU2833  
URJ  
221227





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### ELECTRICAL SPECIFICATIONS AT 25°C

Parameter		Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range			DC	-	3000	MHz
Attenuation <sup>1</sup>	Nominal	DC - 3000	-	5.7	-	dB
	Flatness <sup>2</sup>	DC - 3000	-	±0.20	-	
		DC - 100	-	0.05	0.20	
		100 - 2000	-	0.15	0.30	
	2000 - 3000	-	0.10	0.30		
Return Loss		DC - 100	26.4	40	-	dB
		100 - 2000	19	26.4	-	
		2000 - 3000	-	20.8	-	
Input Power		DC - 3000	-	-	0.5	W

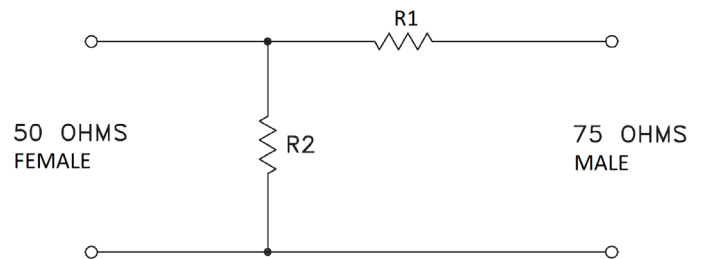
1. Attenuation varies by 0.3 dB max. over temperature
2. Flatness= variation over band divided by 2

### ABSOLUTE MAXIMUM RATINGS

Operating Temperature	-45°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W

Permanent damage may occur if any of these limits are exceeded.

### FUNCTIONAL DIAGRAM





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# Matching Pad

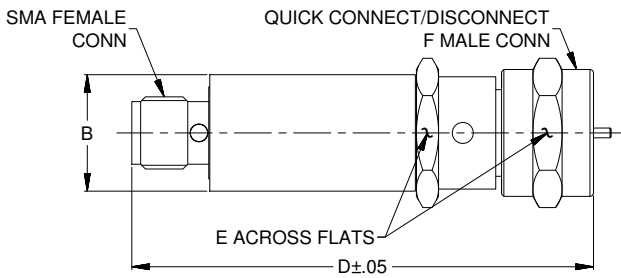
## SFQFM-5075+

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### COAXIAL CONNECTIONS

75Ω	F-MALE
50Ω	SMA-FEMALE

### OUTLINE DRAWING



**CAUTION NOTE:** Due to variability of female 'F' connector, make sure that the threads start no more than 0.030" (0.76) from the edge of the connector to mate with the matching pad.

### OUTLINE DIMENSIONS (Inch/mm)

A	B	C	D	E	Wt.
--	.39	--	1.56	.437	grams
--	10.00	--	39.62	11.11	15



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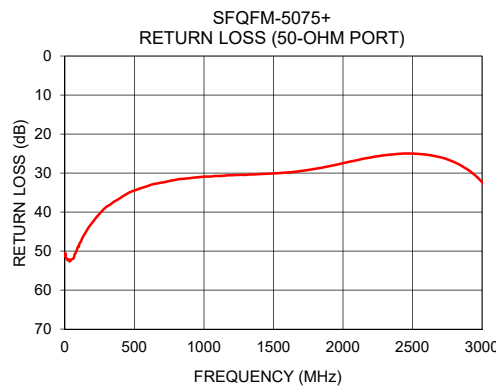
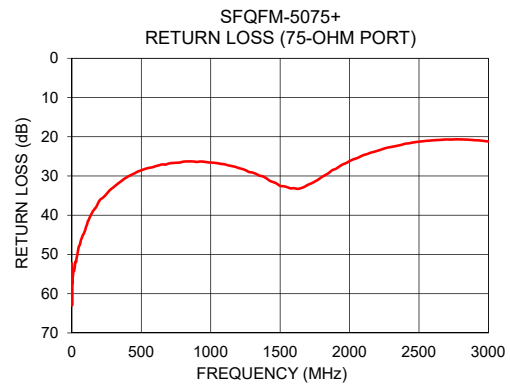
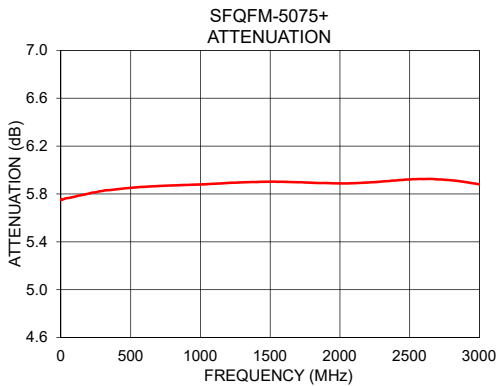
# Matching Pad

## SFQFM-5075+

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### TYPICAL PERFORMANCE DATA @25°C

Frequency (MHz)	Attenuation (dB)	Return Loss (dB)	
		75 Ω	50 Ω
10	5.75	54.53	51.89
50	5.77	47.95	52.08
100	5.78	43.13	48.87
300	5.83	32.87	38.62
500	5.85	28.54	34.47
800	5.87	26.37	31.71
950	5.88	26.36	31.09
1000	5.88	26.58	30.92
1200	5.89	27.95	30.56
1500	5.90	32.52	30.10
1800	5.89	30.27	28.92
2000	5.89	26.22	27.47
2300	5.90	22.60	25.42
2500	5.92	21.24	25.00
2800	5.91	20.68	27.21
3000	5.88	21.21	32.32



- NOTES**
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
  - B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
  - C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



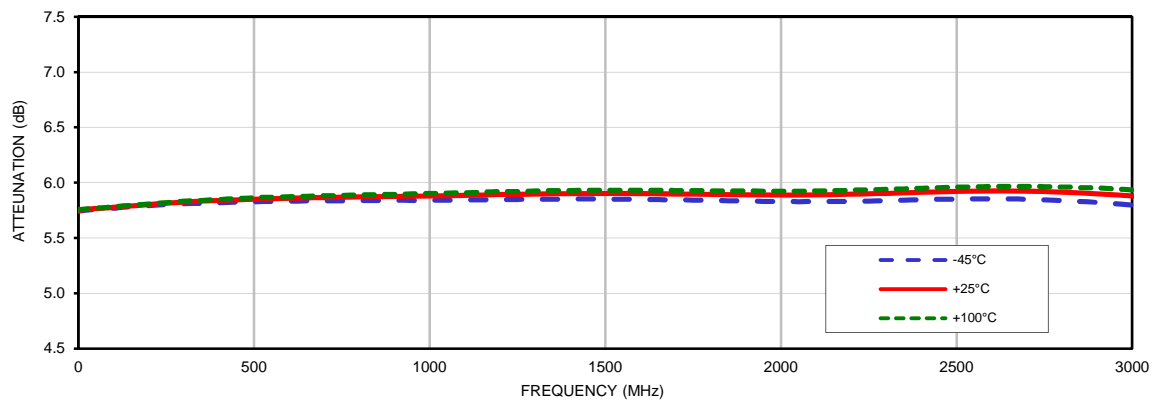
*Typical Performance Data*

TEST CONDITIONS: INPUT POWER = -10dBm

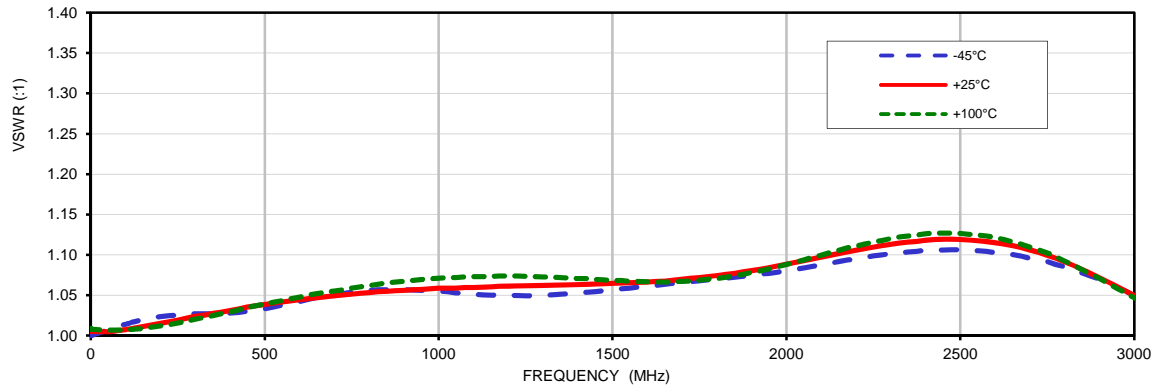
FREQ.  (MHz)	ATTENUATION			50Ω VSWR			75Ω VSWR		
	(dB)			(:1)			(:1)		
	@-45°C	@+25°C	@+100°C	@-45°C	@+25°C	@+100°C	@-45°C	@+25°C	@+100°C
10	5.75	5.75	5.76	1.00	1.00	1.01	1.00	1.00	1.01
50	5.76	5.77	5.77	1.01	1.01	1.01	1.01	1.01	1.01
100	5.77	5.78	5.78	1.01	1.01	1.01	1.02	1.01	1.02
150	5.78	5.79	5.79	1.02	1.02	1.01	1.02	1.02	1.02
200	5.79	5.80	5.81	1.02	1.02	1.01	1.03	1.03	1.03
250	5.80	5.81	5.82	1.03	1.03	1.02	1.03	1.04	1.04
300	5.81	5.83	5.83	1.03	1.03	1.02	1.04	1.05	1.05
350	5.81	5.83	5.84	1.03	1.03	1.02	1.05	1.06	1.06
400	5.82	5.84	5.85	1.03	1.03	1.03	1.06	1.06	1.07
450	5.82	5.85	5.86	1.03	1.03	1.03	1.07	1.07	1.07
500	5.83	5.85	5.86	1.03	1.03	1.04	1.08	1.08	1.08
550	5.83	5.86	5.87	1.04	1.04	1.04	1.09	1.08	1.08
600	5.83	5.86	5.87	1.04	1.04	1.05	1.10	1.09	1.09
650	5.83	5.86	5.88	1.05	1.05	1.05	1.11	1.09	1.10
700	5.84	5.87	5.88	1.05	1.05	1.06	1.11	1.10	1.09
750	5.84	5.87	5.88	1.05	1.05	1.06	1.11	1.10	1.10
800	5.84	5.87	5.89	1.06	1.06	1.06	1.11	1.10	1.10
850	5.84	5.87	5.89	1.06	1.06	1.07	1.10	1.10	1.10
900	5.84	5.88	5.89	1.06	1.06	1.07	1.10	1.10	1.10
950	5.84	5.88	5.90	1.06	1.06	1.07	1.09	1.10	1.11
1000	5.84	5.88	5.90	1.05	1.05	1.07	1.08	1.10	1.10
1050	5.84	5.88	5.91	1.05	1.05	1.07	1.08	1.10	1.10
1100	5.84	5.89	5.91	1.05	1.05	1.07	1.07	1.09	1.10
1150	5.84	5.89	5.91	1.05	1.05	1.07	1.07	1.09	1.09
1200	5.85	5.89	5.92	1.05	1.05	1.07	1.07	1.08	1.09
1250	5.85	5.89	5.92	1.05	1.05	1.07	1.07	1.08	1.08
1300	5.85	5.90	5.92	1.05	1.05	1.07	1.07	1.07	1.08
1350	5.85	5.90	5.93	1.05	1.05	1.07	1.07	1.07	1.07
1400	5.85	5.90	5.93	1.05	1.05	1.07	1.07	1.06	1.06
1450	5.85	5.90	5.93	1.05	1.05	1.07	1.06	1.05	1.05
1500	5.85	5.90	5.93	1.06	1.06	1.07	1.05	1.05	1.05
1550	5.85	5.90	5.93	1.06	1.06	1.07	1.05	1.05	1.05
1600	5.85	5.90	5.93	1.06	1.06	1.07	1.04	1.05	1.05
1650	5.85	5.90	5.93	1.06	1.06	1.07	1.03	1.05	1.05
1700	5.84	5.90	5.93	1.07	1.07	1.07	1.04	1.05	1.05
1750	5.84	5.90	5.93	1.07	1.07	1.07	1.04	1.06	1.06
1800	5.84	5.89	5.93	1.07	1.07	1.07	1.05	1.06	1.07
1850	5.84	5.89	5.92	1.07	1.07	1.07	1.07	1.07	1.08
1900	5.84	5.89	5.92	1.07	1.07	1.08	1.08	1.08	1.09
1950	5.83	5.89	5.92	1.08	1.08	1.08	1.09	1.09	1.10
2000	5.83	5.89	5.92	1.08	1.08	1.09	1.10	1.10	1.11
2050	5.83	5.89	5.92	1.08	1.08	1.09	1.11	1.11	1.12
2100	5.83	5.89	5.92	1.09	1.09	1.10	1.13	1.12	1.13
2150	5.83	5.89	5.93	1.09	1.09	1.11	1.14	1.13	1.13
2200	5.83	5.90	5.93	1.09	1.09	1.11	1.14	1.14	1.14
2250	5.83	5.90	5.93	1.10	1.10	1.12	1.15	1.15	1.15
2300	5.84	5.90	5.94	1.10	1.10	1.12	1.16	1.16	1.15
2350	5.84	5.91	5.94	1.10	1.10	1.12	1.16	1.17	1.16
2400	5.84	5.91	5.95	1.11	1.11	1.13	1.17	1.18	1.18
2500	5.85	5.92	5.96	1.11	1.11	1.13	1.18	1.19	1.18
2550	5.85	5.92	5.96	1.10	1.10	1.12	1.18	1.19	1.19
2600	5.85	5.92	5.96	1.10	1.10	1.12	1.18	1.20	1.19
2650	5.85	5.93	5.97	1.10	1.10	1.12	1.18	1.20	1.20
2700	5.85	5.92	5.97	1.10	1.10	1.11	1.19	1.20	1.21
2750	5.84	5.92	5.96	1.09	1.09	1.10	1.19	1.20	1.20
2800	5.84	5.91	5.96	1.09	1.09	1.09	1.19	1.20	1.21
2850	5.83	5.91	5.96	1.08	1.08	1.08	1.20	1.20	1.21
2900	5.82	5.90	5.95	1.07	1.07	1.07	1.20	1.20	1.20
2950	5.81	5.89	5.94	1.06	1.06	1.06	1.21	1.20	1.20
3000	5.80	5.88	5.93	1.05	1.05	1.05	1.21	1.19	1.19

## Typical Performance Curves

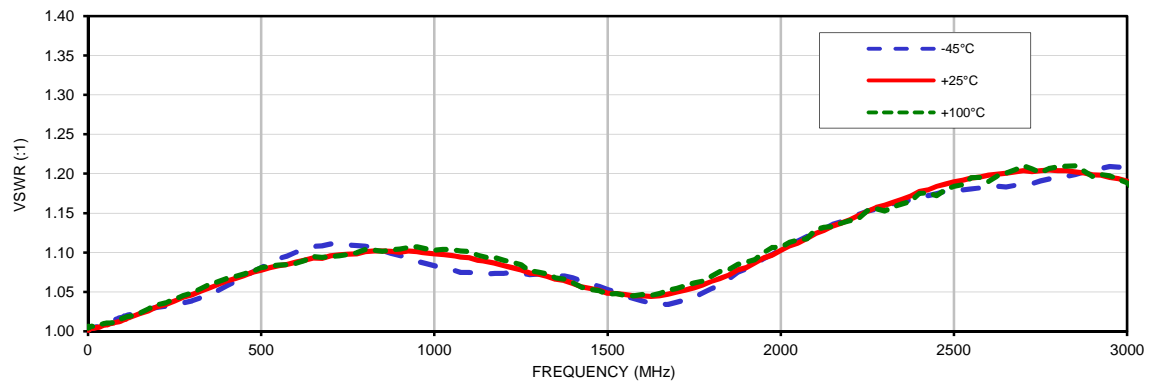
Attenuation Vs. Frequency & Temperature  
INPUT POWER = -10 dBm



50-Ohm VSWR Vs. Frequency & Temperature  
INPUT POWER = -10 dBm



75-Ohm VSWR Vs. Frequency & Temperature  
INPUT POWER = -10 dBm

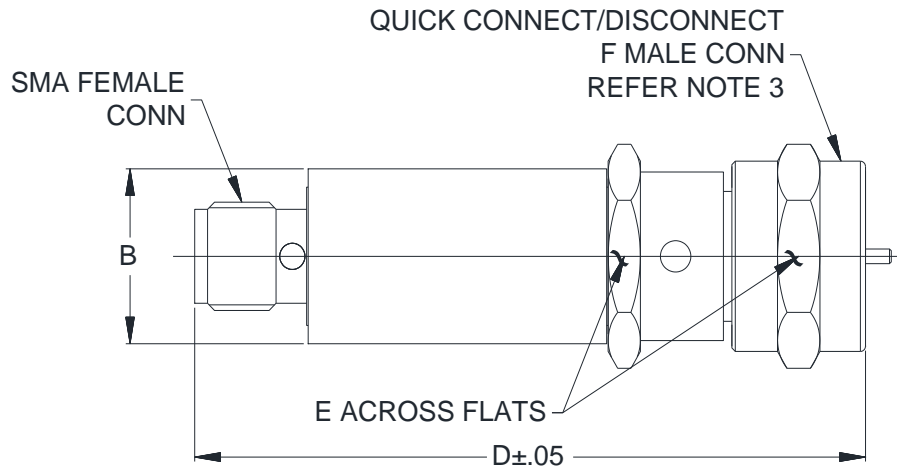


# Case Style

# FF

## Outline Dimensions

## FF2586



CASE#	A	B	C	D	E	WT GRAMS
FF2586	--	.39 (10.00)	--	1.56 (39.62)	.437 (11.11)	15

Dimensions are in inches (mm). Tolerances: 2Pl.  $\pm .03$ ; 3Pl.  $\pm .015$

### Notes:

1. Material:  
Case, Sleeve & Coupling nut: Brass.
2. Finish:  
Case: Gold plate.  
Sleeve & Coupling nut: Nickel plate.
3. **CAUTION:**  
Due to variability of female 'F' connector, make sure that the threads start no more than .030" (0.76) from the edge of the connector to mate with the matching pad.

 **Mini-Circuits**<sup>®</sup>  
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RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-45° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B