

6 dB Fixed Attenuator for Cryogenic Application,  
2.92mm Male to 2.92mm Female, DC to 40 GHz  
Rated to 1 Watt Passivated Stainless Steel Body



**FMAT7703-6**

**Features**

- Cryogenic Operating Temperature Range -265.15 to 125Deg °C
- Bidirectional
- DC to 40 GHz Range
- Attenuation 6 +/- 0.8dB
- 1 Watt Average Input Power
- VSWR <1.4:1

**Applications**

- Quantum Computing
- Precision Measurements
- Instrumentation
- Prototyping and Characterization

**Description**

Fairview Microwave carries a wide range of fixed attenuators with a broad selection of attenuation levels, frequency ranges, and power dissipation ranges. RF microwave attenuators (also known as RF pads) lower the amplitude of a signal (attenuate) a known amount and can be used in a wide variety of applications. These attenuator pads are used when a signal needs to be reduced to protect measurement equipment or other circuitry, to extend the range of power meters and amplifiers, and to impedance match circuits by reducing the VSWR seen by adjacent components. RF attenuators can prevent signal overload in amplifiers, receivers and detectors, adjusting the signal level to a range that is optimal.

Few RF components are as commonly used as fixed coaxial attenuators, and Fairview Microwave carries one of the largest in-stock varieties and ships them same day. The 6 dB Fixed Attenuator FMAT7703-6 is rated to 1 Watt and operates from DC to 18 GHz. The versatile coaxial package uses 2.92mm male to 2.92mm female connectors. The FMAT7703 series are specially designed and manufactured for cryogenic applications with RF performances guaranteed at 4 kelvin.

**Electrical Specifications**

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Nominal Attenuation		6		dB
Attenuation Accuracy		0.5	±0.8	dB
VSWR		1.3:1	1.4:1	

**Specifications by Frequency**

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 26.5	26.5 to 40				GHz
VSWR, Max	1.3:1	1.4:1				
Attenuation Accuracy, Max	±0.5	±0.8				dB

**Mechanical Specifications**

**Size**

Length	0.87 in [22.1 mm]
Width/Diameter	0.31 in [7.87 mm]
Height	0.31 in [7.87 mm]
Weight	1.5 lbs [680.39 g]
Body Material and Plating	Passivated Stainless Steel

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## FMAT7703-6

<b>Configuration</b>		
Design	Fixed, Bidirectional	
<b>Connectors</b>		
Description	Connector 1	Connector 2
Type	2.92mm Male	2.92mm Female
Contact Material and Plating	Beryllium Copper, Gold	Beryllium Copper, Gold

### Environmental Specifications

<b>Temperature</b>	
Operating Range	-269.15 to +125 deg C

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

### Typical Performance Data

6 dB Fixed Attenuator for Cryogenic Application, 2.92mm Male to 2.92mm Female, DC to 40 GHz Rated to 1 Watt Passivated Stainless Steel Body from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

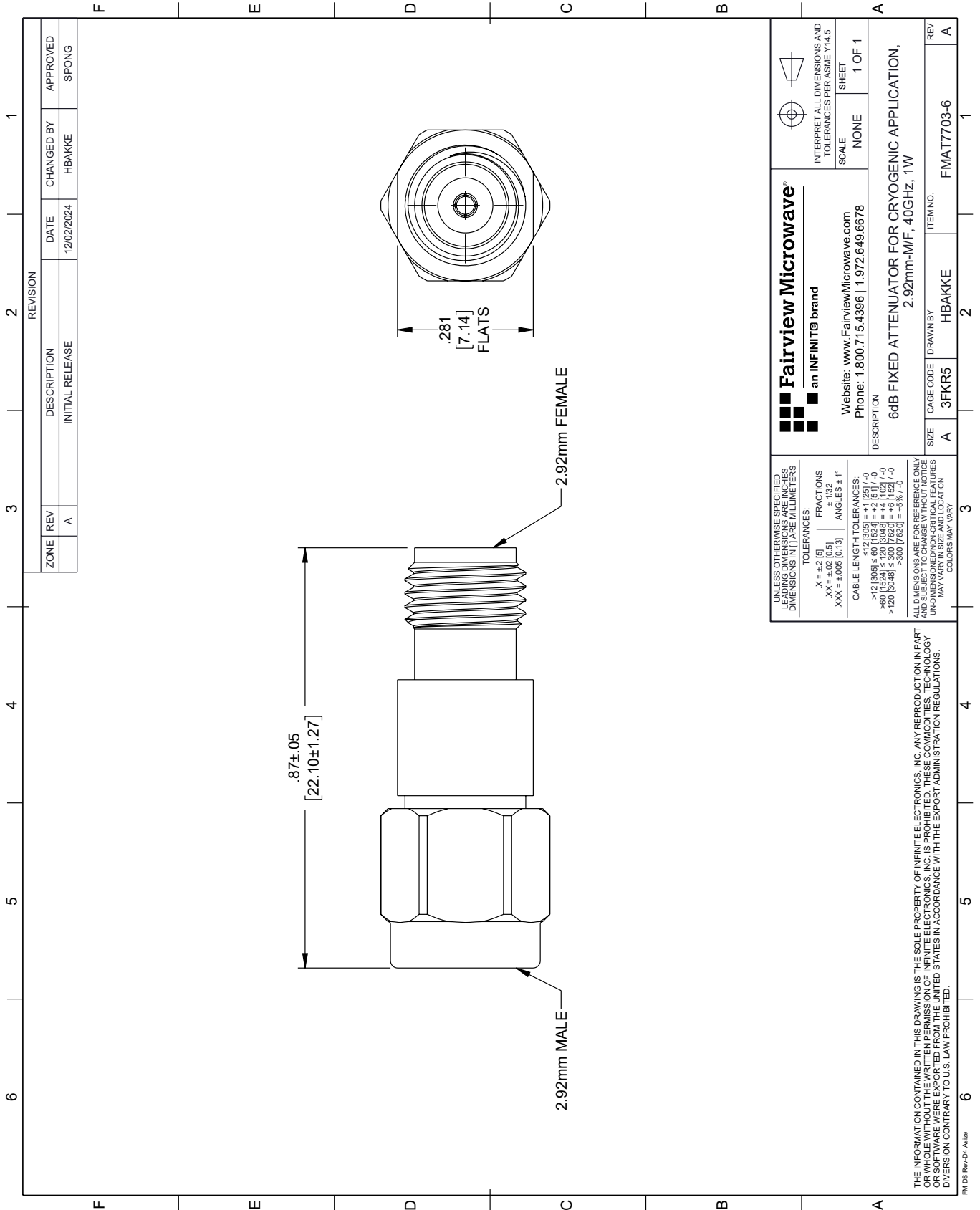
For additional information on this product, please click the following link: [6 dB Fixed Attenuator for Cryogenic Application, 2.92mm Male to 2.92mm Female, DC to 40 GHz Rated to 1 Watt Passivated Stainless Steel Body FMAT7703-6](#)

URL: <https://www.fairviewmicrowave.com/6db-fixed-attenuator-2.92mm-male-2.92mm-female-fmat7703-6-p.aspx>

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# FMAT7703-6 CAD Drawing

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REVISION		DATE	CHANGED BY	APPROVED
ZONE	REV	DESCRIPTION	INITIAL RELEASE	
	A			SPONG

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INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5  
SCALE: NONE SHEET: 1 OF 1

DESCRIPTION: 6dB FIXED ATTENUATOR FOR CRYOGENIC APPLICATION, 2.92mm-MF, 40GHz, 1W

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	3FKR5	HBAKKE	FMAT7703-6

UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE IN INCHES AND TRAILING DIMENSIONS ARE IN MILLIMETERS

TOLERANCES:  
 .X = ±.2 (5) FRACTIONS ± 1/32  
 .XX = ±.02 (0.5) ± 1/32  
 .XXX = ±.005 (0.13) ANGLES ± 1°

CABLE LENGTH TOLERANCES:  
 >12 (305) ≤ 60 (1524) = ±.125 (-0  
 >60 (1524) ≤ 120 (3048) = ±.102 (-0  
 >120 (3048) ≤ 300 (7620) = ±.078 (-0  
 >300 (7620) = ±.053 (-0

ALL DIMENSIONS ARE FOR REFERENCE ONLY. UNDIMENSIONED NON-CRITICAL FEATURES MAY VARY IN SIZE AND LOCATION. COLORS MAY VARY.

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