

## 0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step F Female to F Female from 5 MHz to 2.15 GHz

The FMAT5012 is a 6 Bit Programmable Attenuator which operates over the frequency range of 5 MHz to 2150 MHz. The 75 ohm design supports TTL control logic and has an attenuation range that covers 0 to 63 dB in 1 dB steps. Attenuation steps are 1, 2, 4, 8, 16, and 32 dB. Insertion loss is 5.25 dB maximum with a maximum RF input power up to +10 dBm. Additional typical performance includes +/- 0.5 dB attenuation accuracy typ and switching speed of 5 microseconds. The DC supply is +5 Vdc @ 220 mA. The compact and rugged package design supports F type female RF input/output connectors, and a 10 pin male connector socket for DC and TTL controls. A mating DC cable connector plug assembly (model FMCA1325-24) is available in stock as an accessory. The FMAT5012 has an operational temperature range of 0°C to +70°C.

### Electrical Specifications (Values at 25°C, sea level)

Description	Min	Typ	Max	Unit
Frequency Range	0.005		2.15	GHz
Impedance		75		Ohms
Mean Attenuation Range	0		63	dB
VSWR		1.4:1	1.6:1	
Power Rating			10	dBm
Accuracy of Attenuation or 3% whichever is greater			±0.5	dB
Step Size	1			dB
Switching Time		5		us

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Freq. Range	0.005-0.005	0.005-1	1-1.65	1.65-2.15		GHz
Insertion Loss, Typ	1.6	2.3	3.3	4.6		dB

Electrical Specification Notes:  
1, 2, 4, 8, 16, and 32 dB bit Steps

### Mechanical Specifications

<b>Size</b>	
Length	11 in [279.4 mm]
Width	8.5 in [215.9 mm]
Height	1.95 in [49.53 mm]
Weight	0.8105 lbs [367.64 g]
Connector 1	F Female
Connector 2	F Female



### Features:

- 6 Bit Programmable Attenuator
- 5 to 2150 MHz Bandwidth
- 0-63 dB attenuation
- 1 dB Step Size
- 75 Ohms
- Switching Speed: 5 microseconds typ
- Insertion Loss: 5.25 dB max
- Attenuation Accuracy: +/-0.5 dB typ
- DC Bias: +5 Vdc @ 220 mA
- F type female connectors

### Applications:

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

Fairview Microwave  
301 Leora Ln., Suite 100  
Lewisville, TX 75056  
Tel: 1-800-715-4396 / (972) 649-6678  
Fax: (972) 649-6689  
[www.fairviewmicrowave.com](http://www.fairviewmicrowave.com)  
[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

## Environmental Specifications

### Temperature

Operating Range 0 to +70 deg C

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

## Plotted and Other Data

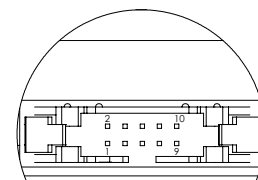
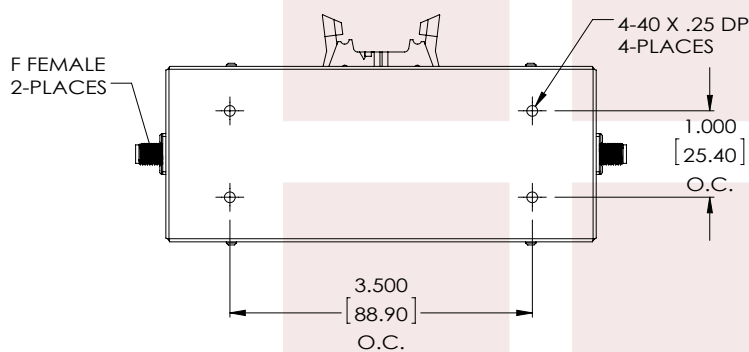
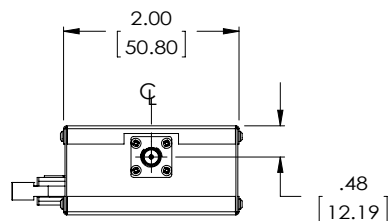
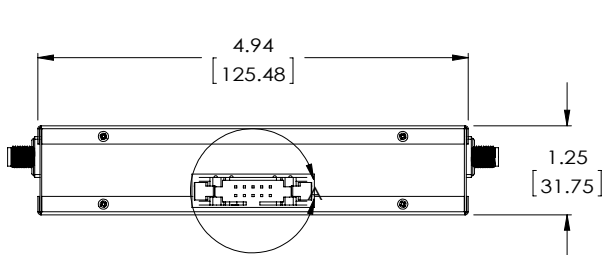
Notes:

0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step F Female to F Female from 5 MHz to 2.15 GHz 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.

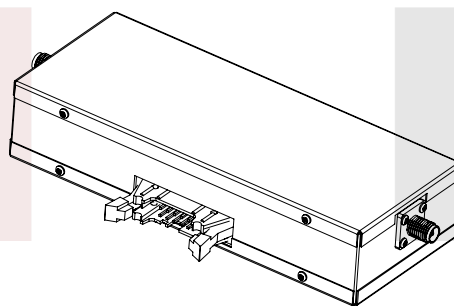
For additional information on this product, please click the following link: [0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step F Female to F Female from 5 MHz to 2.15 GHz FMAT5012](#)

URL: <https://www.fairviewmicrowave.com/63-db-ttl-controlled-step-attenuator-f-female-fmat5012-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



DETAIL A  
3M# 3793-5303



STANDARD TOLERANCES	
.XX	±0.010
.XXX	±0.005

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

PIN	FOUNCTION
1	1dB TTL CONT.
2	2dB TTL CONT.
3	4dB TTL CONT.
4	8dB TTL CONT.
5	16dB TTL CONT.
6	32dB TTL CONT.
7	64dB TTL CONT.
8	NO CONNECTION
9	NO CONNECTION
10	GROUND

**FAIRVIEW MICROWAVE INC.**  
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

TITLE

DWG NO

FMAT5012

CAGE CODE

3FKR5

0 to 63 dB Programmable TTL Controlled Step  
Attenuator with a 1 dB Step F Female to F Female  
from 5 MHz to 2.15 GHz

CAD FILE 041217

SHEET

SCALE N/A

SIZE A

CN\_1408