

## 0 to 127 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 700 MHz to 3 GHz

The FMAT5008 is a 7 Bit Programmable Attenuator which operates over the frequency range of 700 MHz to 3000 MHz. The 50 ohm design supports TTL control logic and has an attenuation range that covers 0 to 127 dB in 1 dB steps. Attenuation steps are 1, 2, 4, 8, 16, 32, and 64 dB. Insertion loss is 6 dB maximum with a maximum RF input power +20 dBm. Additional typical performance includes +/- 1.0 dB attenuation accuracy and switching speed of 0.7 microseconds. The DC supply supports dual voltages of +5 Vdc and -5 Vdc. The compact and rugged package design supports SMA 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 FMAT5008 has an operational temperature range of -40°C to +85°C.



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

Description	Min	Typ	Max	Unit
Frequency Range	0.7		3	GHz
Mean Attenuation Range	0		127	dB
Insertion Loss			6	dB
Input VSWR			1.5:1	
Power Handling Capacity			+20	dBm
DC Supply				
+5 Vdc		@ 140 mA (0 dB) @ 155 mA (127 dB)		
-5 Vdc		@ 115 mA (0 dB) @ 85 mA (127 dB)		
Accuracy of Attenuation or 2% whichever is greater			±0.5	dB
Step Size	1			dB
Switching Time			5	us
Logic Input				
Logic "0" (Bit Off) @ 5µA	0		1.5	Volts
Logic "1" (Bit On) @ 800µA	2		5	Volts

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Freq. Range	0.7-0.7	0.7-3				GHz
Insertion Loss, Typ	2.3	4.8				dB

#### Electrical Specification Notes:

1, 2, 4, 8, 16, 32, and 64 dB bit Steps

### Features:

- 7 Bit Programmable Attenuator
- 700 to 3000 MHz Bandwidth
- 0-127 dB attenuation
- 1 dB Step Size
- 50 Ohms
- Switching Speed: 0.7 microseconds typ
- Insertion Loss: 6.0 dB max
- Attenuation Accuracy: +/- 1 dB typ
- DC Voltage Dual Supply: +5 / -5 Vdc
- SMA 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)

**Mechanical Specifications**

**Size**

Weight 0.5235 lbs [237.46 g]  
 Connector 1 SMA Female  
 Connector 2 SMA Female

**Environmental Specifications**

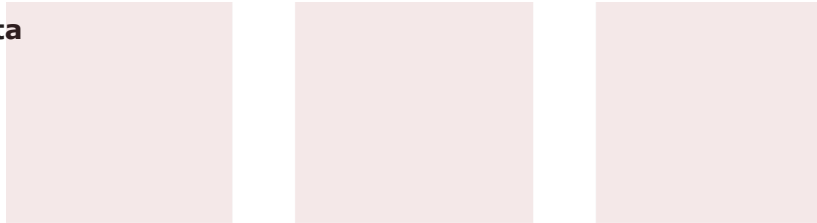
**Temperature**

Operating Range 0 to +70 deg C

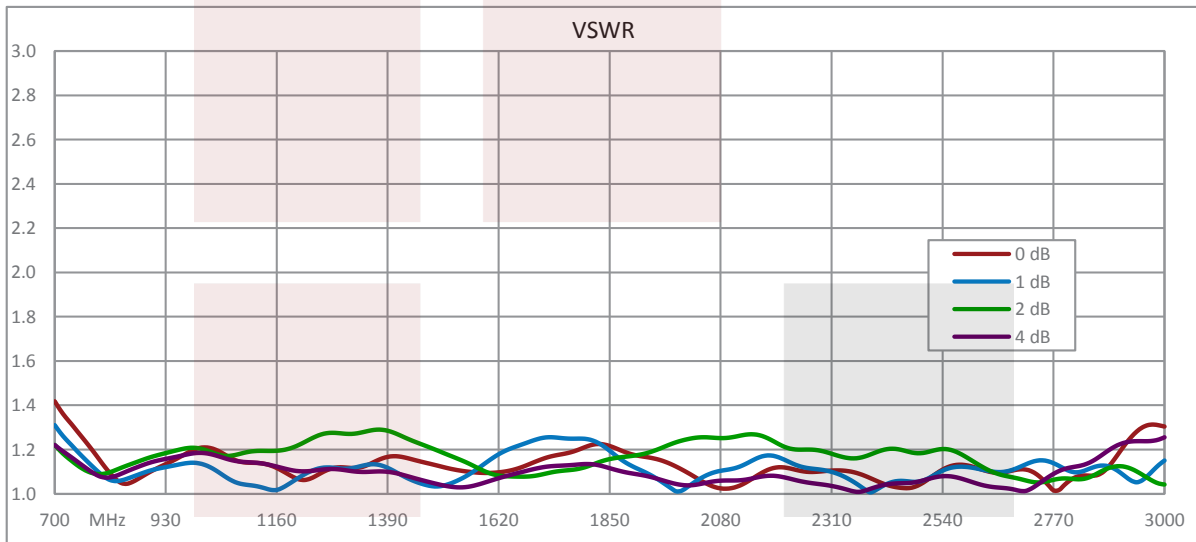
**Compliance Certifications** (see [product page](#) for current document)

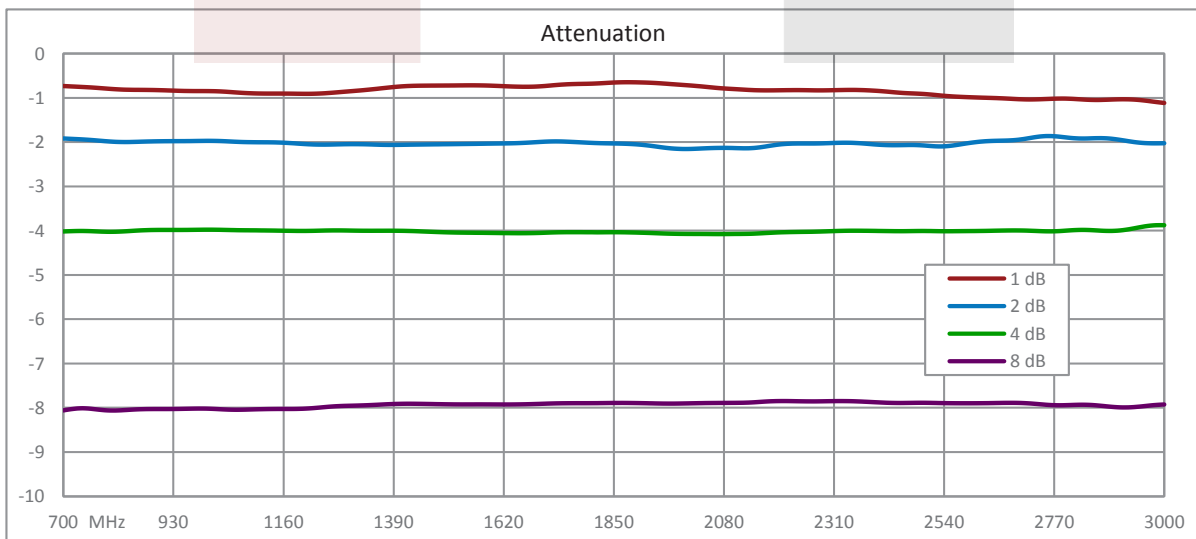
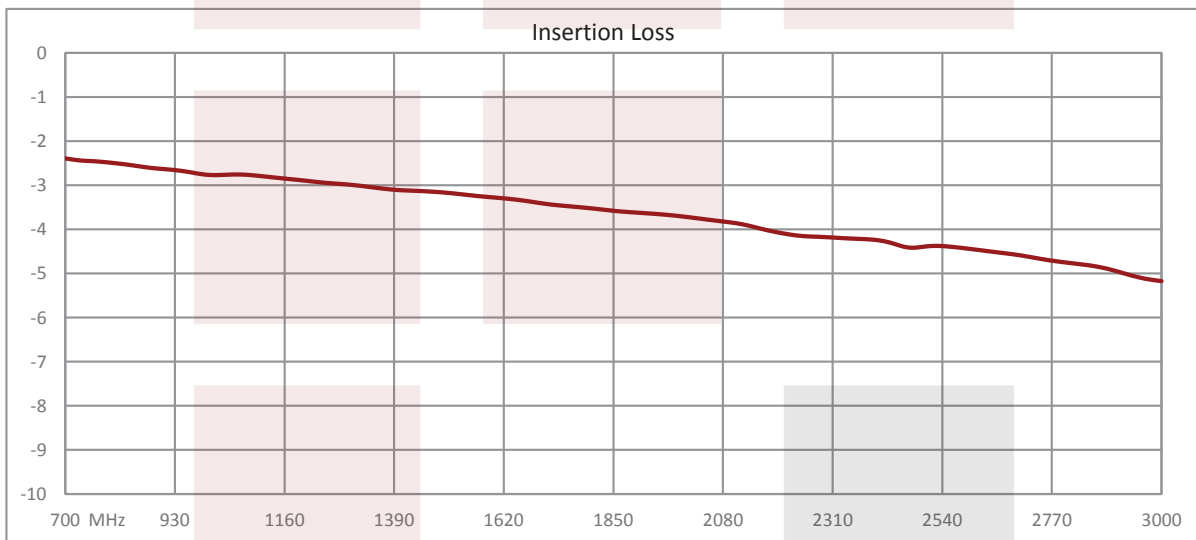
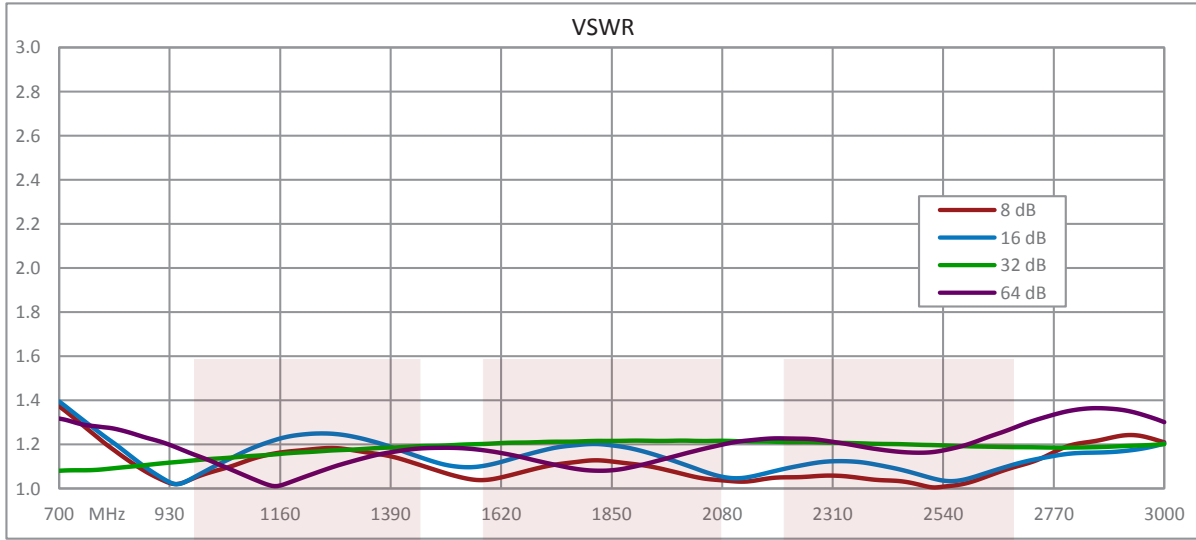
**Plotted and Other Data**

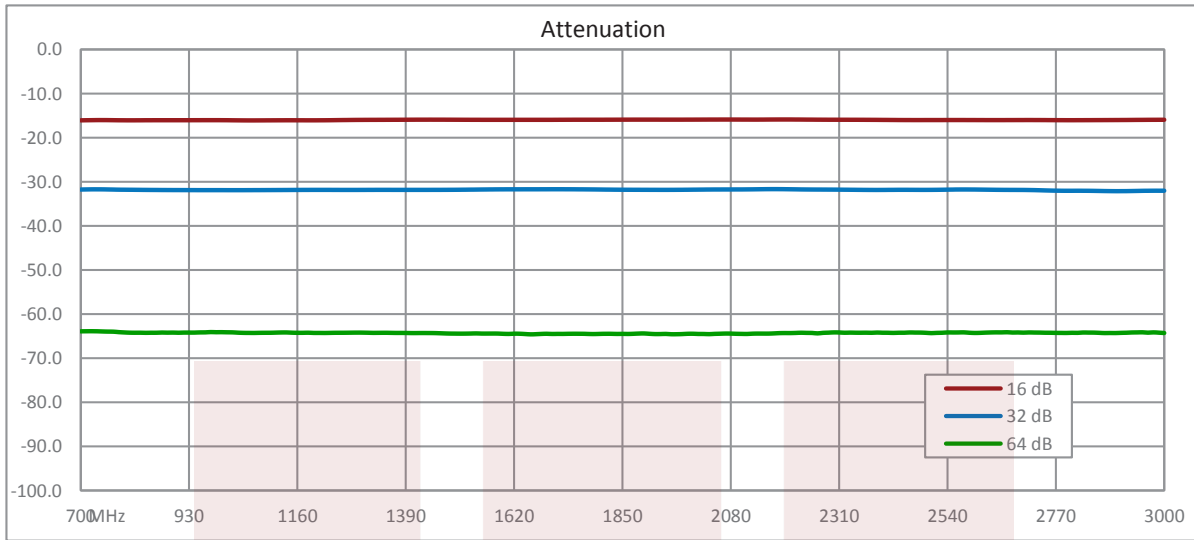
Notes:



**Typical Performance Data**





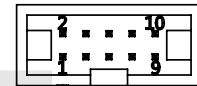
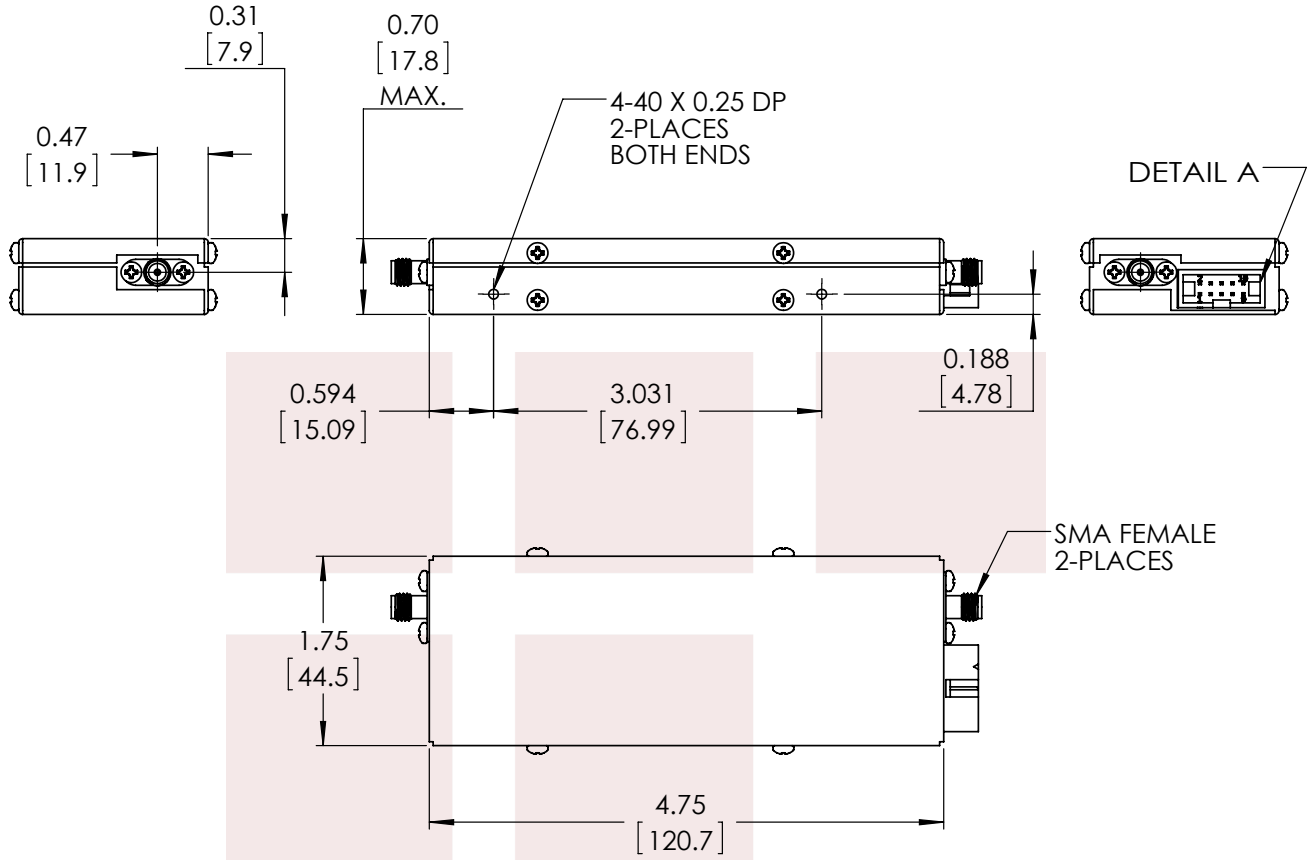


0 to 127 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 700 MHz to 3 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [0 to 127 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 700 MHz to 3 GHz FMAT5008](https://www.fairviewmicrowave.com/127-db-ttl-controlled-step-attenuator-sma-female-fmat5008-p.aspx)

URL: <https://www.fairviewmicrowave.com/127-db-ttl-controlled-step-attenuator-sma-female-fmat5008-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.



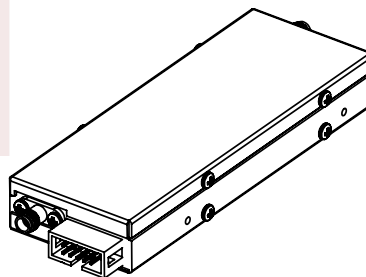
DETAIL A  
T&B #609-1057

PIN	FUNCTION
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	-5Vdc
9	+5Vdc
10	GROUND

STANDARD TOLERANCES

.XX ±0.01  
.XXX ±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



## FAIRVIEW MICROWAVE INC.

ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

NOTES:

- UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
- ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
- DIMENSIONS ARE IN INCHES [mm].

TITLE

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DWG NO

FMAT5008

CAGE CODE

3FKR5

CAD FILE 041117

SHEET

SCALE N/A

SIZE A

CN\_0992