

## 0 to 63.5 dB Programmable TTL Controlled Step Attenuator with a 0.5 dB Step SMA Female to SMA Female from 30 MHz to 3 GHz

The FMAT5005 is a 7 Bit Programmable Attenuator which operates over the frequency range of 30 MHz to 3000 MHz. The 50 ohm design supports TTL control logic and has an attenuation range that covers 0 to 63.5 dB in 0.5 dB steps. Attenuation steps are 0.5, 1, 2, 4, 8, 16, and 32 dB. Insertion loss is 3 dB typical with a maximum operating RF input power +20 dBm. Additional typical performance includes +/- 0.5 dB attenuation accuracy and switching speed of 0.7 microseconds. The DC supply is +5 Vdc @ 50 mA. 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 FMAT5005 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	0.03		3	GHz
Mean Attenuation Range	0		63.5	dB
Insertion Loss			4	dB
Input VSWR			1.8:1	
Survival Power Average			+25	dBm
Power Handling Capacity			+20	dBm
Accuracy of Attenuation				dB
0.5 dB to 7.5 dB		±0.2		dB
8 dB to 63.5 dB		±0.5		dB
Step Size	0.5			dB
Switching Time			1	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	0.03-0.03	0.03-3				GHz
Insertion Loss, Typ	2.5	3.7				dB

Electrical Specification Notes:  
0.5, 1, 2, 4, 8, 16, and 32 dB bit Steps

### Mechanical Specifications

#### Size

Weight	0.1225 lbs [55.57 g]
Connector 1	SMA Female
Connector 2	SMA Female



### Features:

- 7 Bit Programmable Attenuator
- 30 to 3000 MHz Bandwidth
- 0-63.5 dB attenuation
- 0.5 dB Step Size
- 50 Ohms
- Switching Speed: 0.7 microseconds typ
- Insertion Loss: 4.0 dB max
- Attenuation Accuracy: +/- 0.5 dB typ
- DC Bias: +5 Vdc @ 50 mA
- SMA female connectors

### Applications:

- Electronic Warfare
- Test & Measurement
- Military and Wireless Communications Systems
- Military & Space
- Radar

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

-40 to +85 deg C

Storage Range

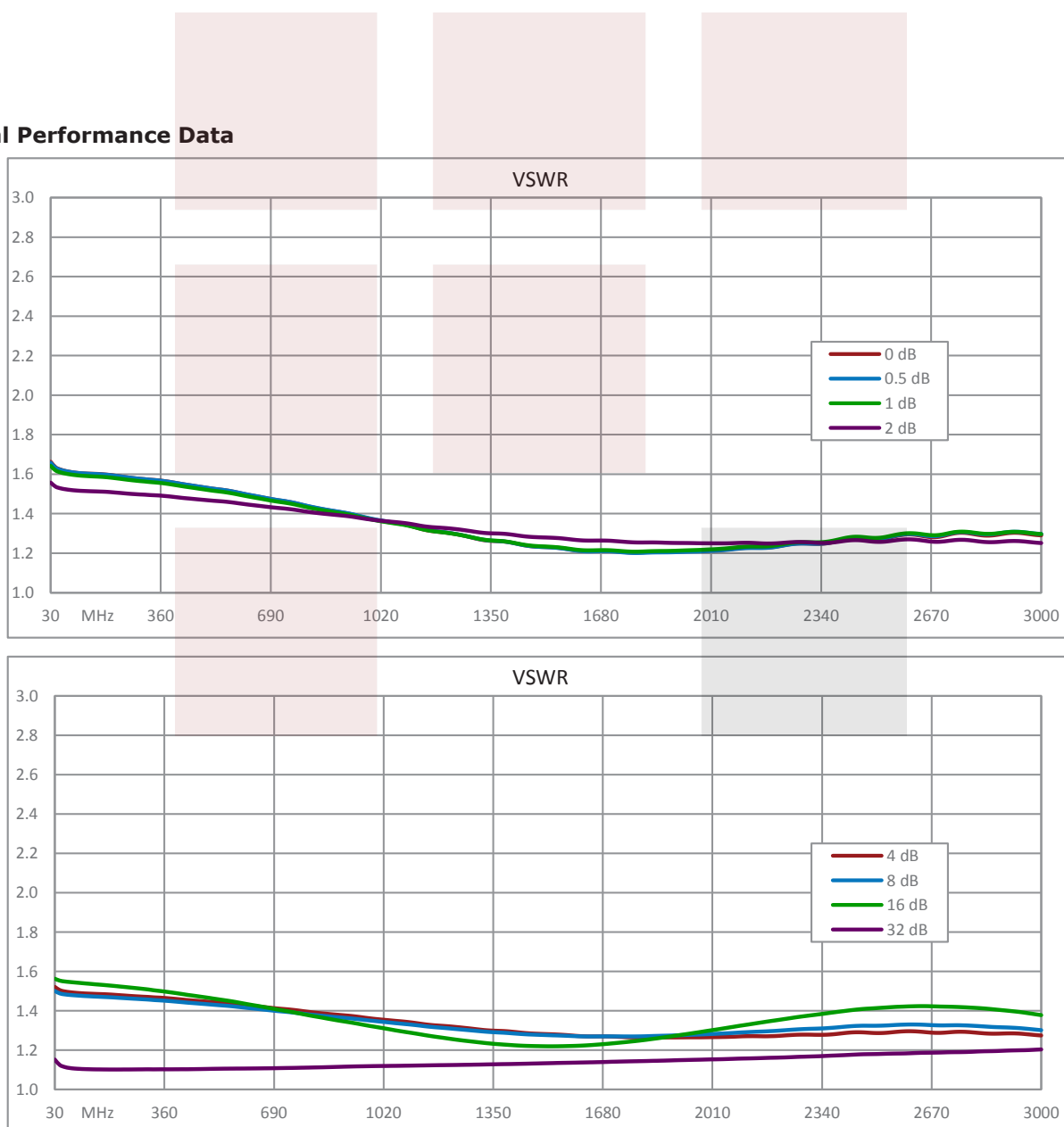
-65 to +150 deg C

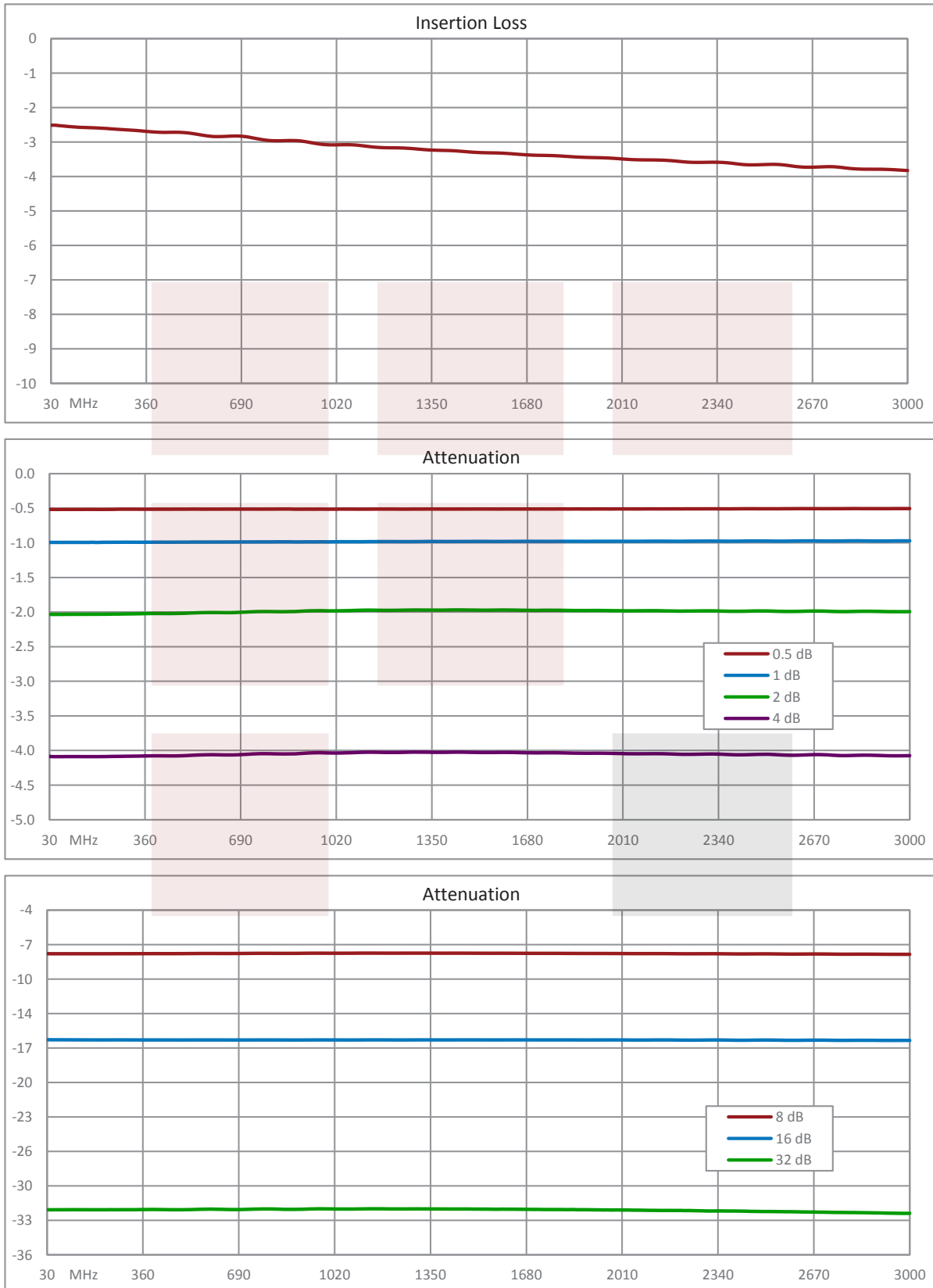
**Compliance Certifications** (see [product page](#) for current document)

## Plotted and Other Data

Notes:

### Typical Performance Data



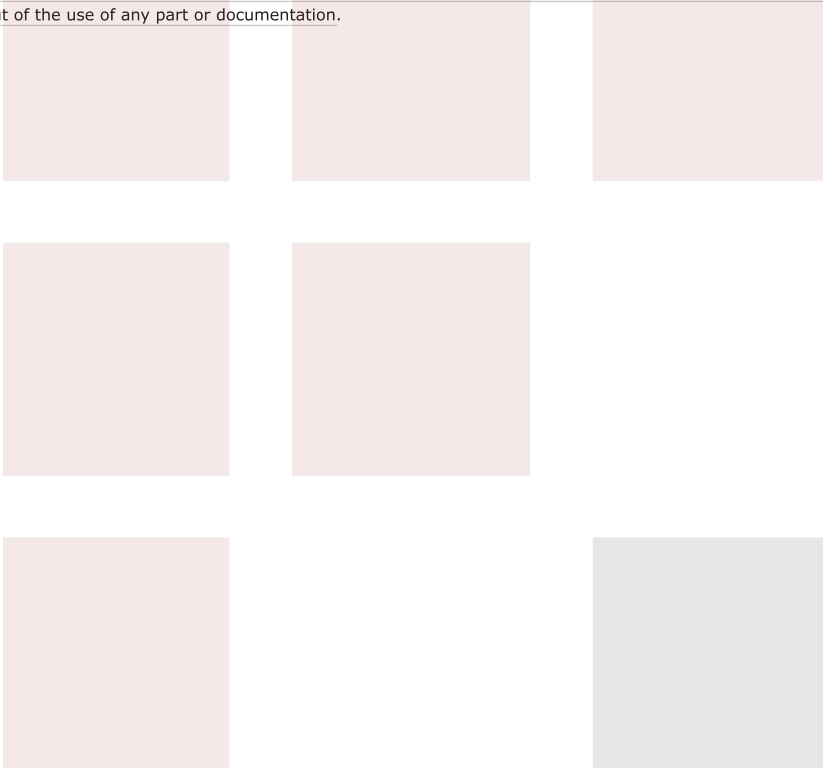


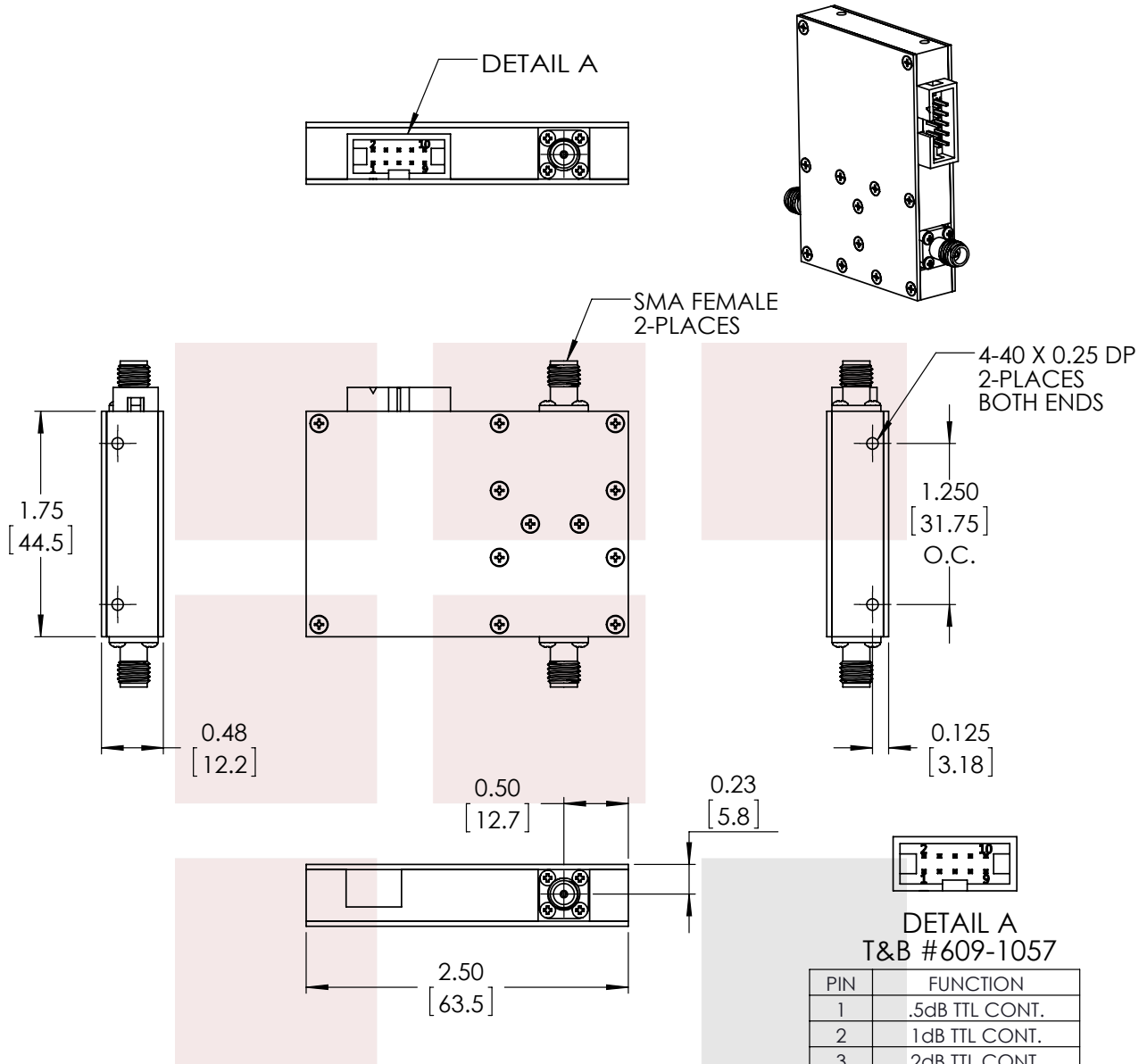
0 to 63.5 dB Programmable TTL Controlled Step Attenuator with a 0.5 dB Step SMA Female to SMA Female from 30 MHz to 3 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [0 to 63.5 dB Programmable TTL Controlled Step Attenuator with a 0.5 dB Step SMA Female to SMA Female from 30 MHz to 3 GHz FMAT5005](#)

URL: <https://www.fairviewmicrowave.com/63.5-db-ttl-controlled-step-attenuator-sma-female-fmat5005-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.





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:

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

0 to 63.5 dB Programmable TTL Controlled Step Attenuator with a 0.5 dB Step SMA Female to SMA Female from 30 MHz to 3 GHz

DWG NO

FMAT5005

CAGE CODE

3FKR5

CAD FILE 041117

SHEET

SCALE N/A

SIZE A

CN\_0992