Fairview Microwave
an INFINITE brand

FMAT8007
DATA SHEET

0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 18 GHz

The FMAT8007 is a wide band 7 Bit Solid State Programmable Attenuator which operates over the frequency range of 100 MHz to 18 GHz. The 50 ohm design supports TTL control logic and has an attenuation range that covers 0 to 63 dB in 0.5 dB steps. Attenuation steps are 0.5, 1, 2, 4, 8, 16, and 31.5 dB. Insertion loss is 4 dB typical with a maximum RF input power of +25 dBm. Additional typical performance includes +/- 0.6 dB attenuation accuracy and switching speed of 0.35 microseconds. Operational temperature range is -40°C to +85°C, and the DC supply is +5 Vdc @ 2 mA nominal. 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 PE3C4220-24) is available in stock as an accessory.

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

Description	Min	Typ	Max	Unit
Frequency Range	0.1		18	GHz
Impedance		50		Ohms
Mean Attenuation Range	0		63	dB
Insertion Loss		4	7	dB
VSWR		1.6:1	2:1	
DC Voltage		+5		Vdc
DC Current		2		mA
Accuracy of Attenuation				dB
0.5 dB to 3.5 dB		±0.25		dB
4 dB to 14.5 dB		±0.5		dB
15 dB to 31.5 dB		±0.75		dB
32 dB to 63 dB		±0.1		dB
TTL Low for Thru Path		+0 to +0.8		Vdc
TTL High for Attenuation		+2 to +5		Vdc
Step Size	1			dB
Switching Time		350	1,000	ns
RF Input Power (Operating- Input Side)			24	dBm
RF Input Power (Operating-Output Side)			15	dBm
RF Input Power (No Damage- Input Side)			25	dBm
RF Input Power (No Damage-Output Side)			16	dBm

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Freq. Range	0.1-0.1	0.1-3	3-6	6-12.4	12.4-18	GHz
Insertion Loss, Typ	2	2.7	3.2	4.5	6.4	dB

Electrical Specification Notes:
0.5, 1, 2, 4, 8, 16, and 31.5 dB bit Attenuation Steps

Features:

- Wide band 7 Bit Solid State Programmable Attenuator
- Frequency Range 100 MHz to 18 GHz
- Attenuation Range: 0 to 63 dB in 0.5 dB steps
- Attenuation Steps: 0.5, 1, 2, 4, 8, 16, 31.5 dB
- Insertion Loss 4 dB typ
- Attenuation Accuracy +/- 0.6 dB typ
- Swtiching Speed 0.35 microseconds typ
- Max RF Input Power +25 dBm
- DC Voltage +5 Vdc
- DC Current 2 mA typ
- 50 Ohm Design
- -40°C to +85°C Operating Temperature
- SMA Female Connectors
- 10 Pin Male Connector for DC and TTL controls
- Rugged Mil Grade Package Design

Applications:

- Military & Commercial Communication Systems
- Microwave Radio Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends

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Mechanical Specifications

Size

Connector 1	SMA Female
Connector 2	SMA Female

Environmental Specifications

Temperature

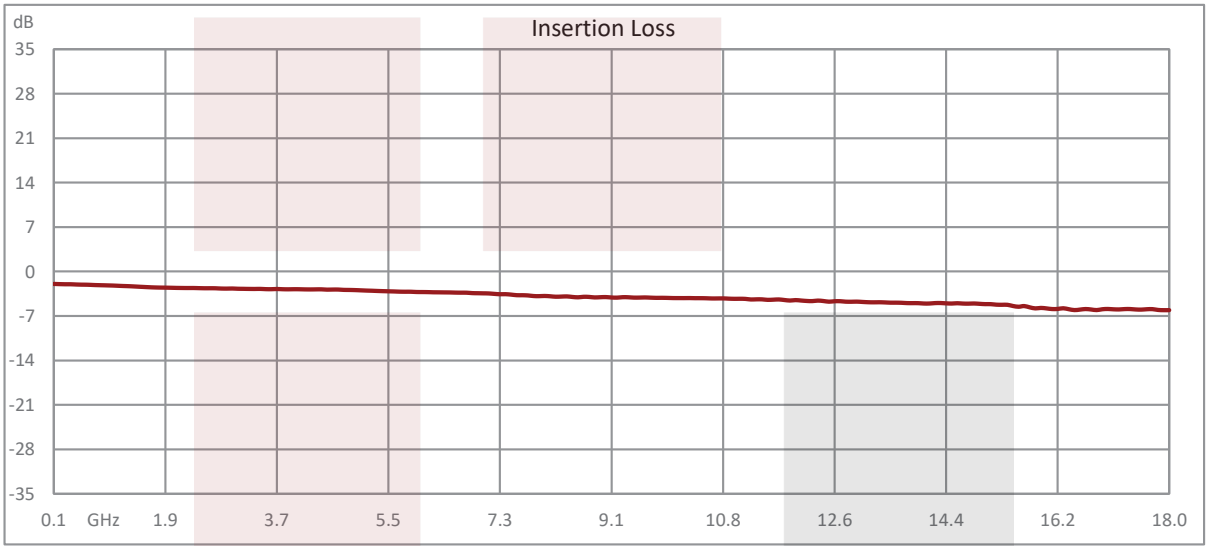
Operating Range	-40 to +85 deg C

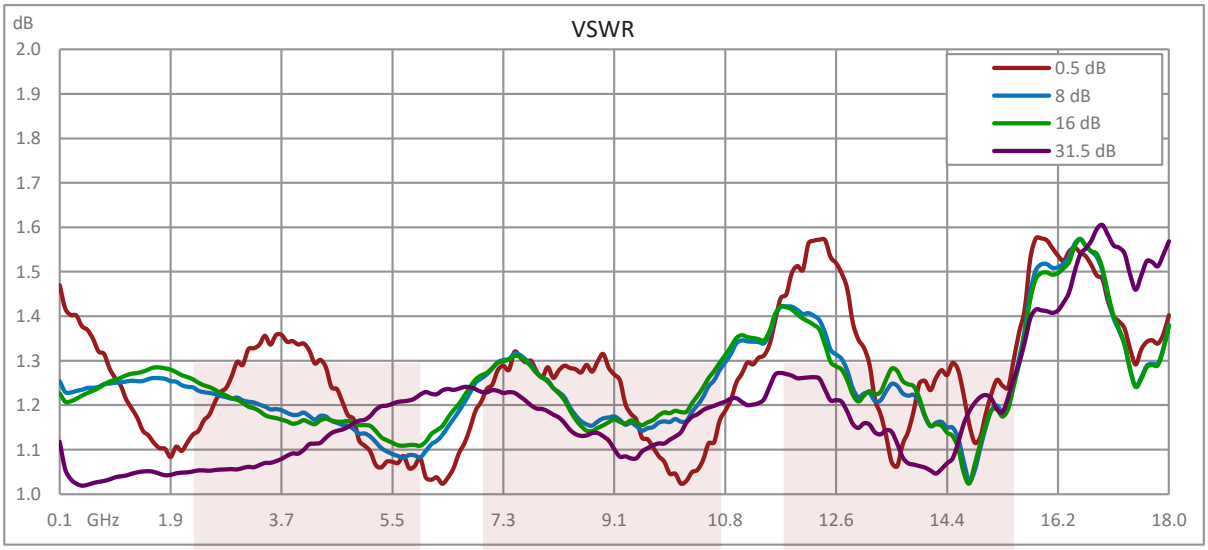
Compliance Certifications (see product page for current document)

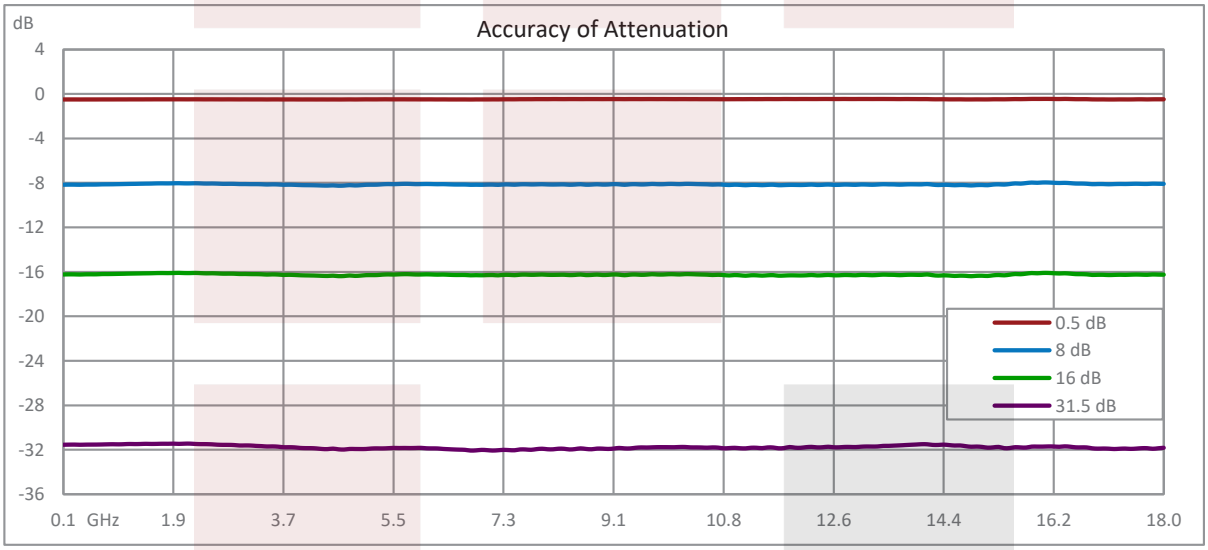
Plotted and Other Data

Notes:

Typical Performance Data





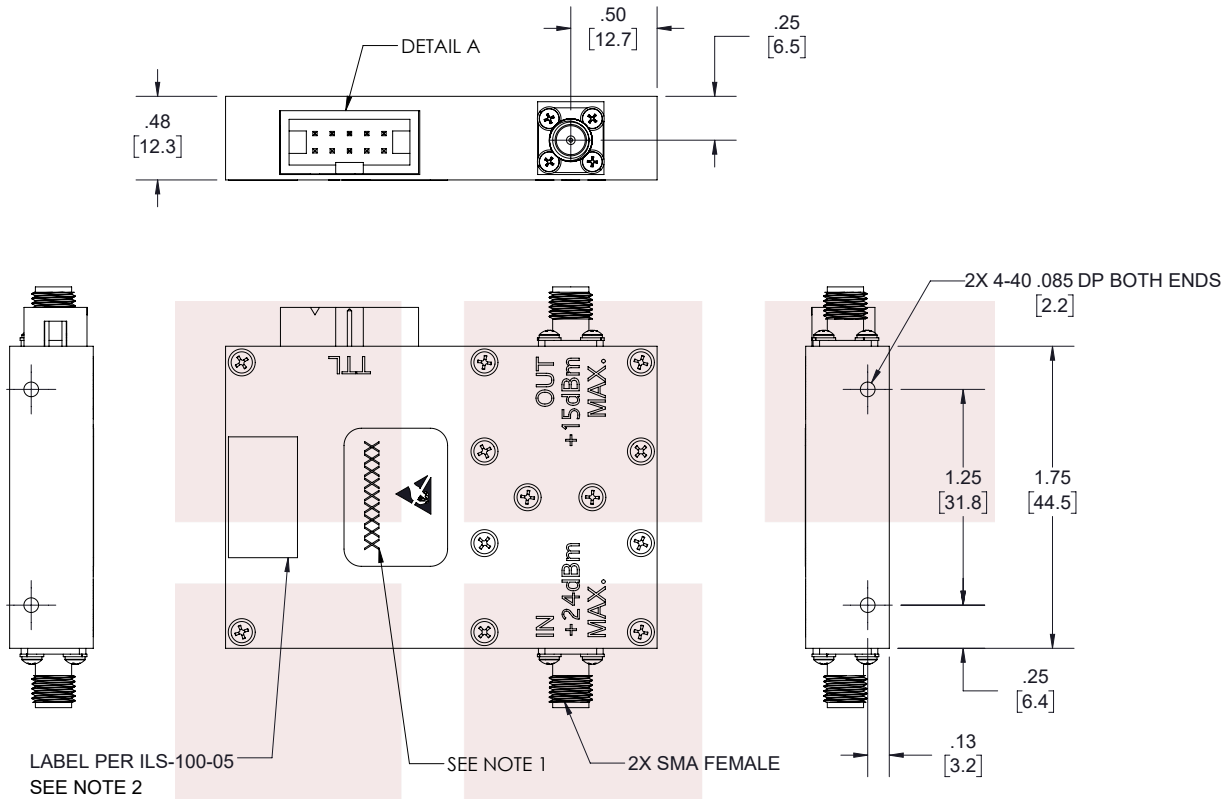


0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 18 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

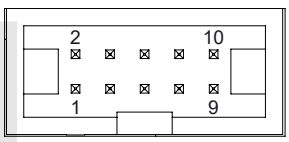
For additional information on this product, please click the following link: 0 to 63 dB Programmable TTL Controlled Step Attenuator with a 1 dB Step SMA Female to SMA Female from 100 MHz to 18 GHz FMAT8007

URL: https://www.fairviewmicrowave.com/0-to-63-db-programmable-ttl-controlled-step-attenuator-with-a-1-db-step-sma-female-to-sma-female-from-100-mhz-to-18-ghz-fmat8007-p.aspx

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA



PIN	FUNCTION
1	0.5dB TTL CONT.
2	1dB TTL CONT.
3	2dB TTL CONT.
4	4dB TTL CONT.
5	8dB TTL CONT.
6	16dB TTL CONT.
7	31.5dB TTL CONT.
8	NO CONNECTION
9	DC SUPPLY
10	GROUND



DETAIL A
3M #D2510-6002-AR
OR EQUIVALENT

NOTES:

1. SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.
2. LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY.
   LABEL LOCATION SHOULD BE SAME AS SHOWN.

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TITLE

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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ±.2 [5.08]
.XX = ±.02 [.51]
.XXX = ±.005 [.13]
FRACTIONS ± 1/32
ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION

SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	MVEERAPPAN	FMAT8007	A

T-Rev.D