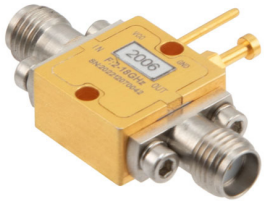
2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA



FMAT2006

Features

- Reflective Voltage Controlled Attenuator
- 2 GHz to 18 GHz
- Attenuation Range 0 to 30 dB typ
- Insertion Loss 1.3 dB typ
- P0.1 dB Compression Power +30 dBm typ
- Input IP3 45 dBm typ
- Max RF Input Power +30 dBm typ
- Control Voltage 0V to 10V
- Switching Speed < 2.5 usec
- 50 Ohm Circuit Design uses Series-Shunt Topology
- Field Replaceable SMA Female RF Connectors
- Solder Pins for DC control
- Operational Temperature Range -40°C to +85°C
- Rugged and Compact Aluminum Gold Plated Package Design
- Guaranteed Environmental Test Conditions Altitude, Vibration, Humidity, Shock
- Single Control Operation

Applications

- Test & Measurement
- Military and Commercial Communications
- Military Electronic Systems
- Research & Development

Description

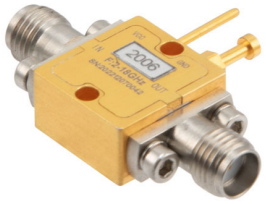
The FMAT2006 is a Reflective Analog Voltage Variable Attenuator module that operates across a broadband frequency range from 2 GHz to 18 GHz and supports a single voltage control of 0V to 10V with 15 mA of DC Current. The 50 ohm circuit design uses a reflective topology and offers an attenuation range from 0 to 30 dB across the full frequency band. Impressive typcial performance includes 1.3 dB insertion loss, a P0.1dB compression point of +30 dBm, input IP3 of 45 dBm, switching speed of < 2.5 usec, and a maximum RF input power level of +30 dBm. The low profile minature pin package is aluminum with gold plating and supports field replaceable SMA RF connectors and solder pins for DC control. With the connectors removed, the package can be drop mounted onto a PWB. The module has an operational temperature range from -40°C to +85°C and is guaranteed to meet a series of environmental test conditions for Altitude, Vibration, Humidity, and Shock.

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	2		18	GHz
Attenuation Range		30		dB
Insertion Loss		1.3	1.8	dB
VSWR		1.5:1	1.8:1	
RF Input Power		+30	30	dBm
Input at 0.1 dB Compression Point		+30		dBm
Switching Speed			2.5	us
Control Voltage	0		10	Volts
Impedance		50		Ohms
Input IP3		45		dBm
Attenuation Range		30		dB
IL Temperature Coefficient		0.003		dB/deg C

+1 (866) 839-4711 | sales@fairviewmicrowave.com | fairviewmicrowave.com

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA



FMAT2006

Absolute Maximum Rating

Parameter	Rating
Control Voltage	0~ 15V
RF Input power	+30dBm

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Mechanical Specifications

Size	
Length	0.55 in [13.97 mm]
Width	0.28 in [7.11 mm]
Height	0.51 in [12.95 mm]
Weight	0.002 lbs [0.91 g]
Input Connector	Field Replaceable SMA Female
Output Connector	Field Replaceable SMA Female
Power and Control	Solder Pin

Environmental Specifications

Temperature	
Operating Range	-40 to +85 deg C
Storage Range	-50 to +105 deg C
Humidity	100% RH at 35°C, 95% RH at 40°C
Shock	20G for 11 msec half sine wave, 3 axis both directions
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Altitude	30,000 Feet

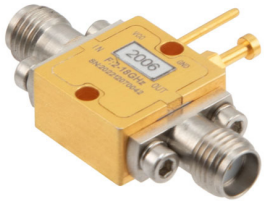
Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

+1 (866) 839-4711 | sales@fairviewmicrowave.com | fairviewmicrowave.com

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA

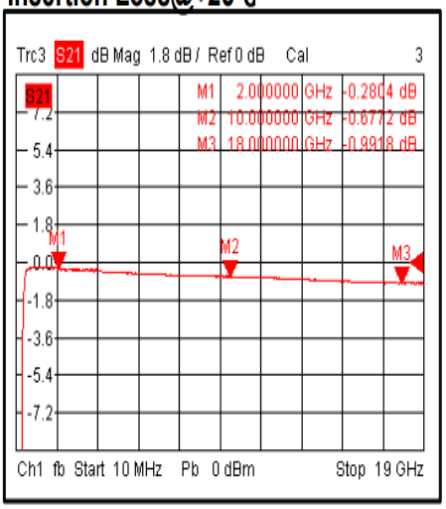


FMAT2006

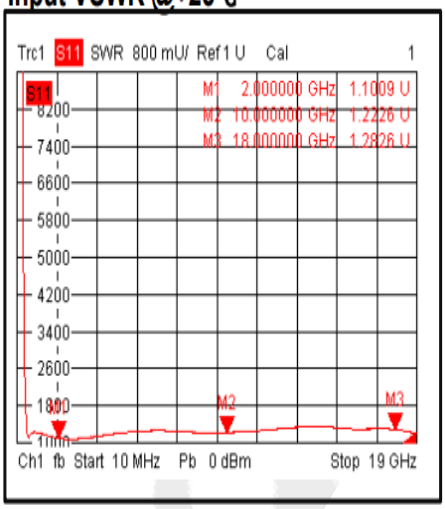
Functional Block Diagram

Performance Data

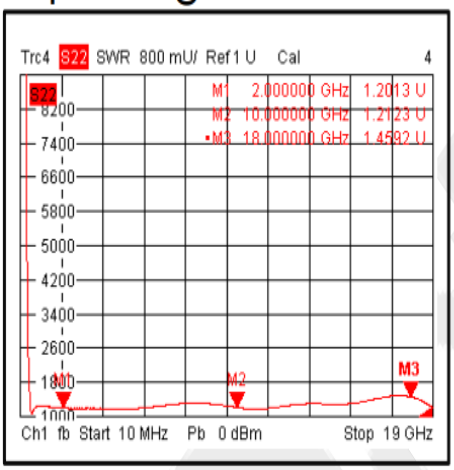
Insertion Loss@+25°C



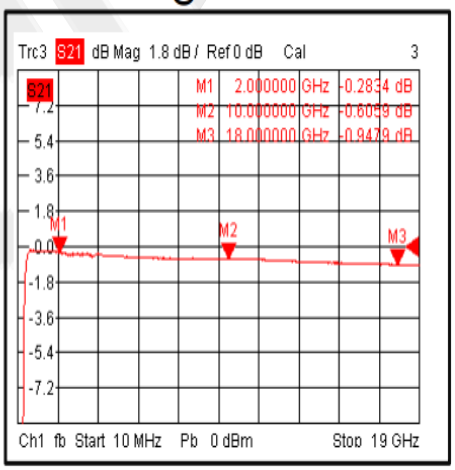
Input VSWR @+25°C



Output VSWR @+25°C

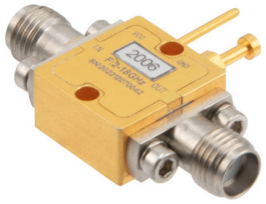


Insertion Loss@-40°C



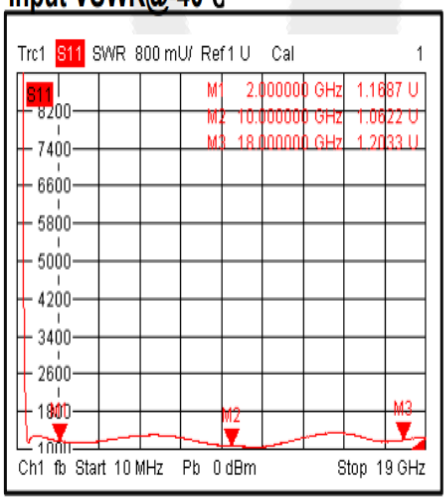
+1 (866) 839-4711 | sales@fairviewmicrowave.com | fairviewmicrowave.com

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA

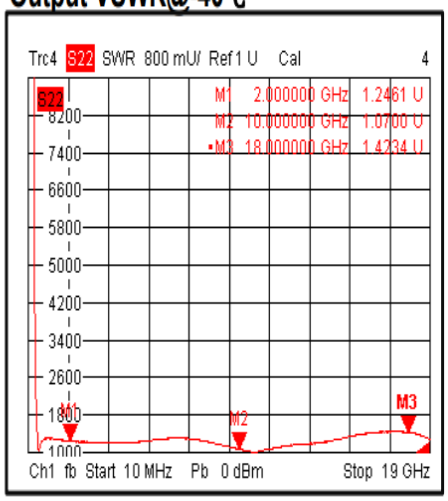


FMAT2006

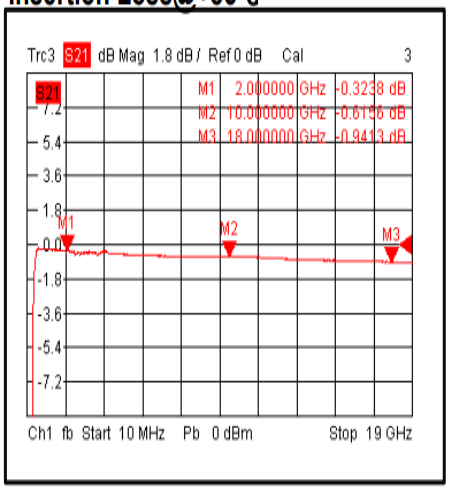
Input VSWR@-40°C



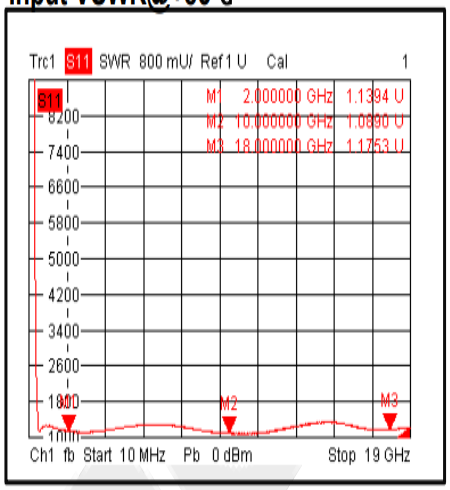
Output VSWR@-40°C



Insertion Loss@+85°C

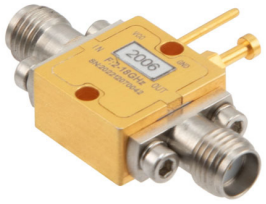


Input VSWR@+85°C



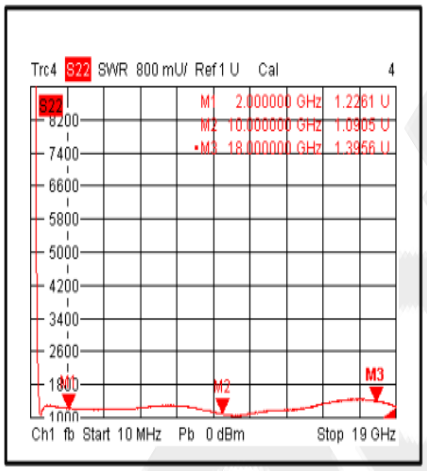
+1 (866) 839-4711 | sales@fairviewmicrowave.com | fairviewmicrowave.com

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA

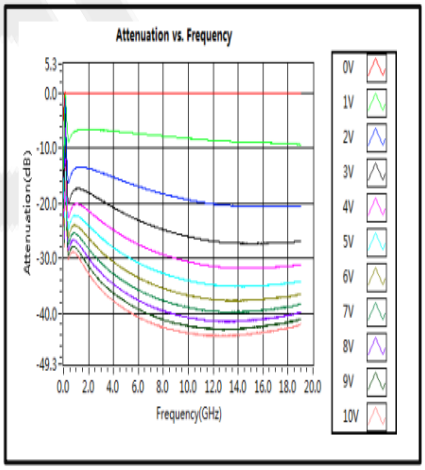


FMAT2006

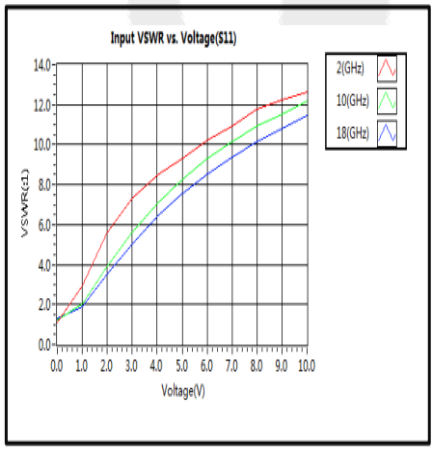
Output VSWR@+85℃



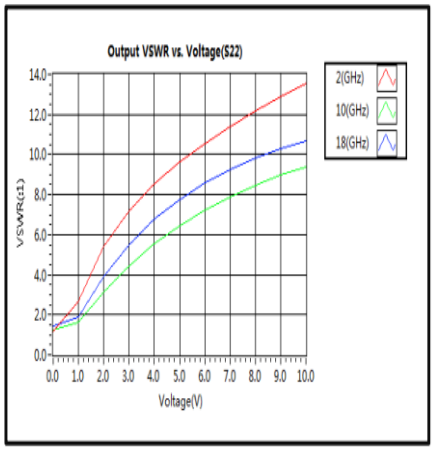
Attenuation vs. Frequency



Input VSWR vs. Voltage(S11)

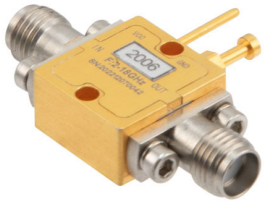


Output VSWR vs. Voltage(S22)



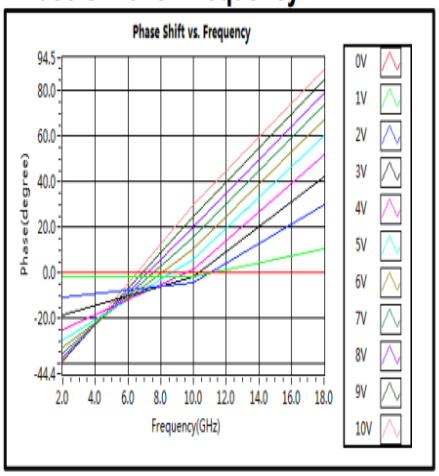
+1 (866) 839-4711 | sales@fairviewmicrowave.com | fairviewmicrowave.com

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA

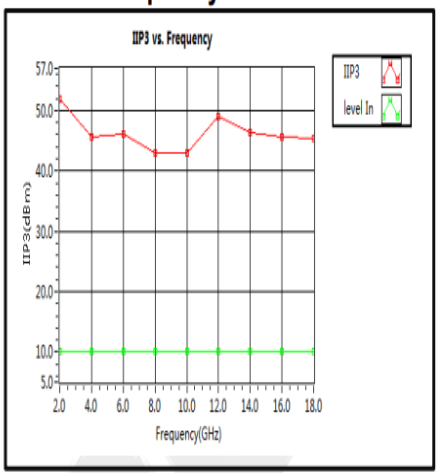


FMAT2006

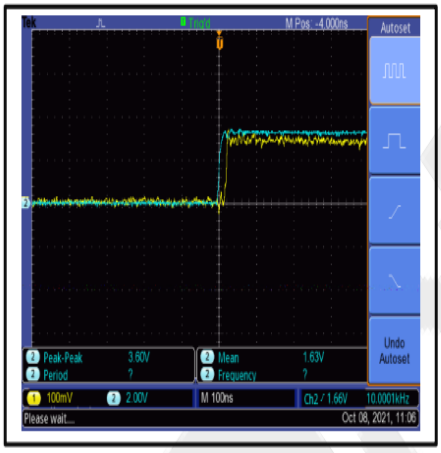
Phase Shift vs. Frequency



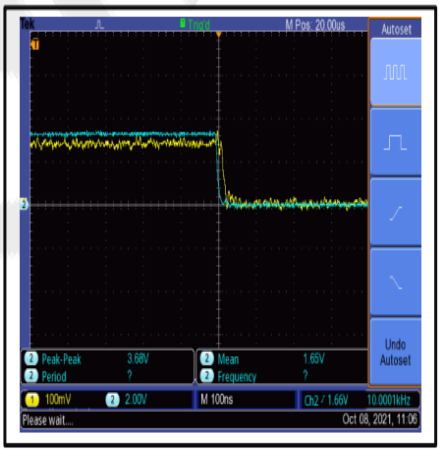
IIP3 vs. Frequency



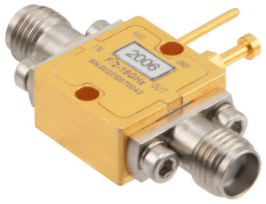
Speed



Speed



2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA



FMAT2006

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA 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: 2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA FMAT2006

URL: https://www.fairviewmicrowave.com/30db-voltage-variable-30-dbm-attenuator-pin-diode-18-ghz-fmat2006-p.aspx

FMAT2006 CAD Drawing

2 GHz to 18 GHz Reflective Voltage Control Attenuator, 30 dB, Field Replaceable SMA