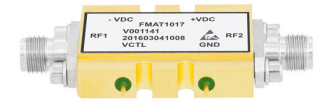


0 to 30 dB Voltage Variable Attenuator From DC To 20 GHz PIN Diode Rated To 18 Watts And SMA



FMAT1017

Features

- Voltage Variable control of 30 dB Attenuator
- 0 GHz to 20 GHz frequency range
- 30 dB Attenuation Range
- Insertion Loss 3.6 dB Typ
- SMA Female Field Replaceable Connectors

Applications

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

Description

The FMAT1017 is a 30 dB Pin Diode Voltage Variable Attenuator with an operating frequency range from 0 GHz to 20 GHz. The RF Input/ Output Connectors are SMA Female. The attenuator uses a dual +/- 5 VDC supply. The control is thru a voltage control that is used to select the attenuation state and a single 0 to -3 VDC bias that allows the operation at frequencies down to DC. The drop-in package is hermetically sealed with field replaceable SMA connectors and has an operating temperature range of -40°C to +85°C. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		20	GHz
Attenuation Range	0		30	dB
RF Input Power			18	dBm
Attenuation Range	0		30	dB

Mechanical Specifications

Size

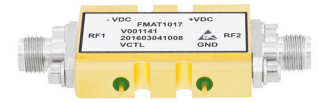
Length	1.087 in [27.61 mm]
Width	0.85 in [21.59 mm]
Height	0.23 in [5.84 mm]
Weight	2.25 lbs [1.02 kg]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C
Temperature Cycle	MIL-STD-883, Method 101C, Cond B
Hermetic Seal	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.
ESD Sensitive	Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10-8 atm cc

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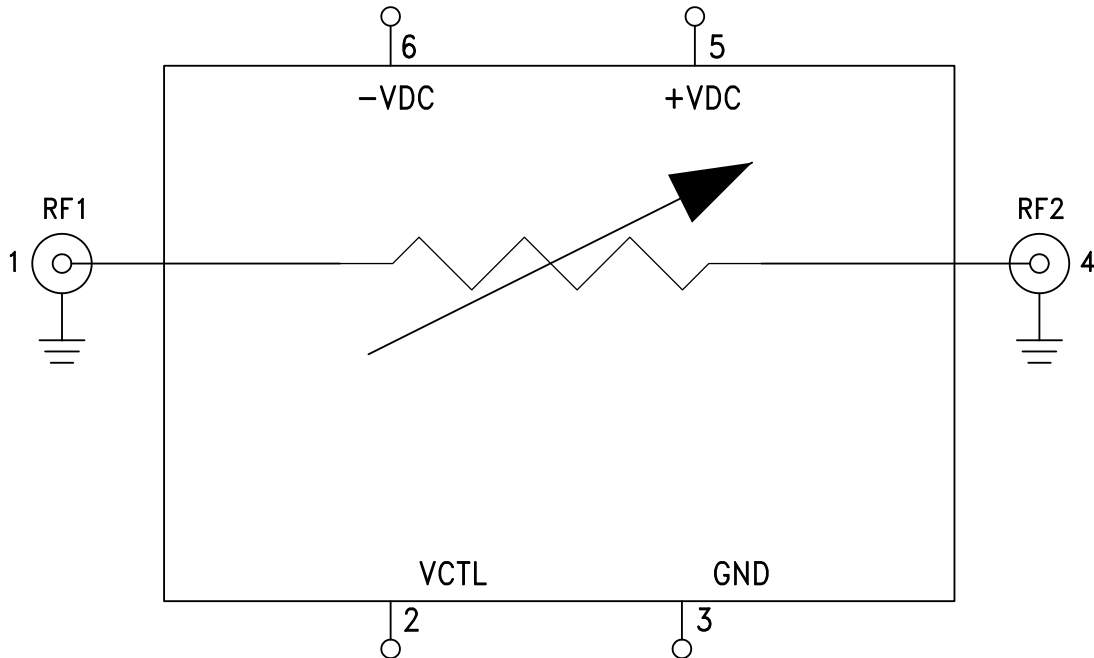
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

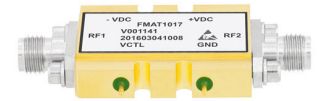
Notes:

- Values at +25 °C, sea level
ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Functional Block Diagram



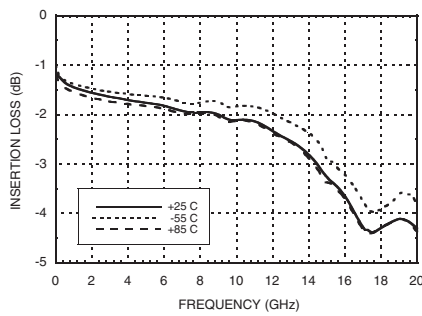
0 to 30 dB Voltage Variable Attenuator From DC To 20 GHz PIN Diode Rated To 18 Watts And SMA



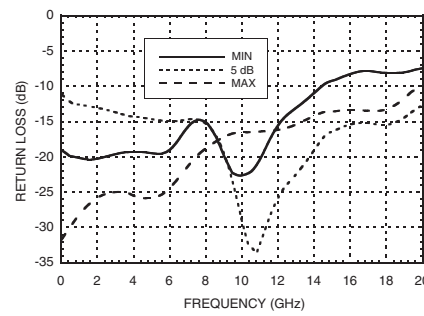
FMAT1017

Performance Data

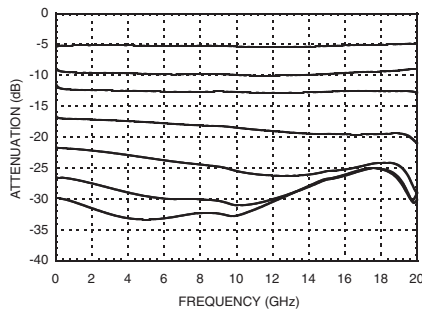
Insertion Loss vs. Frequency Over Temperature



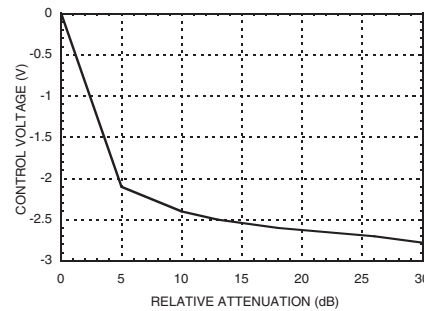
Return Loss RF1 vs. Frequency Over Attenuation



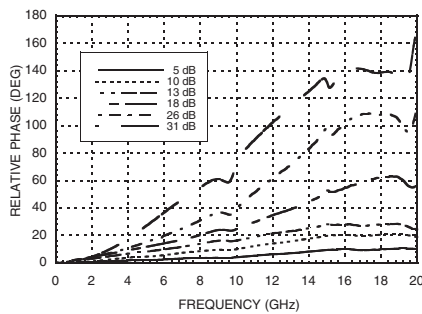
Relative Attenuation vs. Frequency



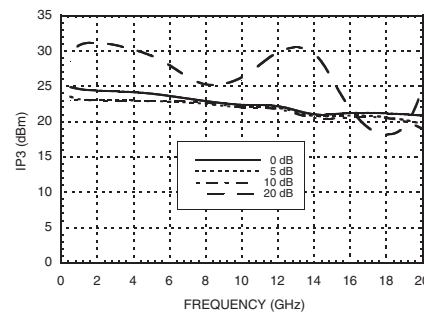
Relative Attenuation vs. Control Voltage @ 10 GHz



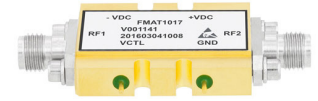
Relative Phase vs. Frequency



Input IP3 vs. Frequency Over Attenuation

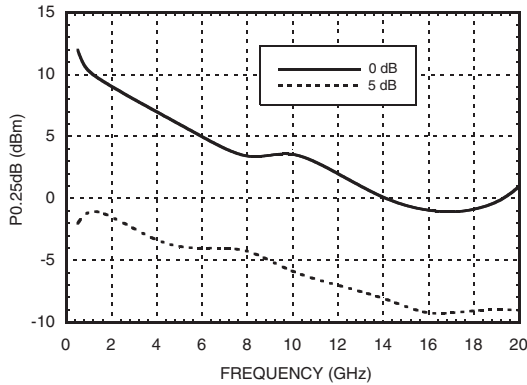


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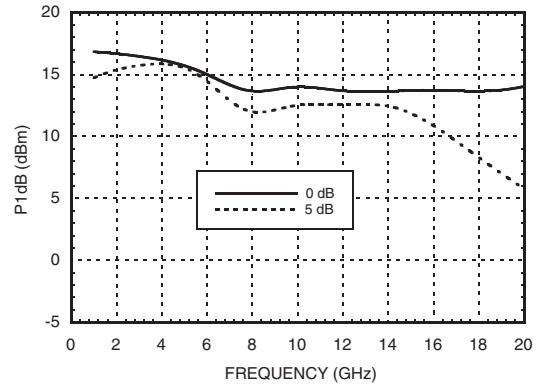


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0.25 dB Compression vs. Frequency Over Attenuation



1 dB Compression vs. Frequency Over Attenuation



0 to 30 dB Voltage Variable Attenuator From DC To 20 GHz PIN Diode Rated To 18 Watts And 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.

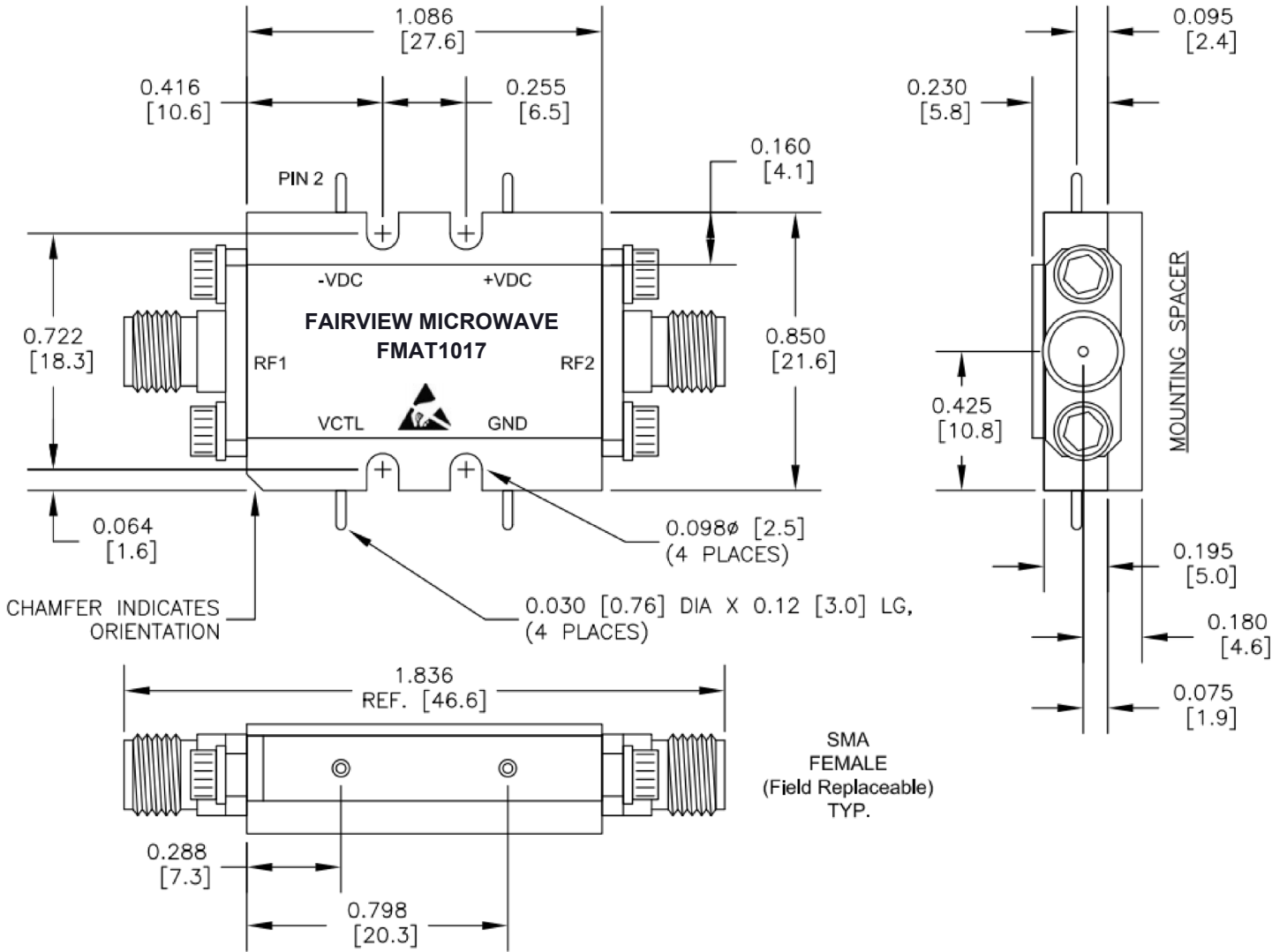
For additional information on this product, please click the following link: [0 to 30 dB Voltage Variable Attenuator From DC To 20 GHz PIN Diode Rated To 18 Watts And SMA FMAT1017](https://www.fairviewmicrowave.com/30db-voltage-variable-18-watts-attenuator-pin-diode-20-ghz-fmat1017-p.aspx)

URL: <https://www.fairviewmicrowave.com/30db-voltage-variable-18-watts-attenuator-pin-diode-20-ghz-fmat1017-p.aspx>

The information contained within 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 liability arising out of the use of any part or document.

FMAT1017 CAD Drawing

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STANDARD TOLERANCES

.X ± 0.2
.XX ± 0.01
.XXX ± 0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

Fairview Microwave
RF COMPONENTS ON DEMAND. *Done!*

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 FMAT1017	CAGE CODE 3FKR5
	CAD FILE 05/18/18	SHEET 1 OF 1
	SCALE N/A	SIZE A 7361