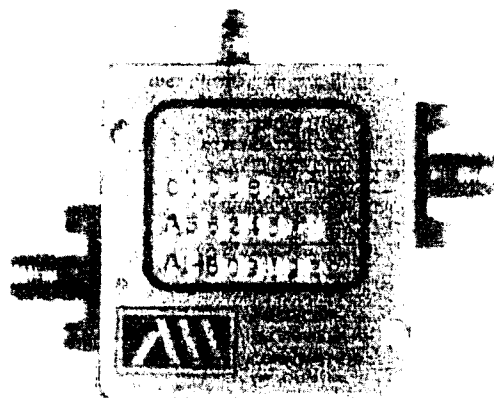


**AGH SERIES  
NON-REFLECTIVE  
ATTENUATOR / MODULATOR  
1-18 GHz, 60 dB**



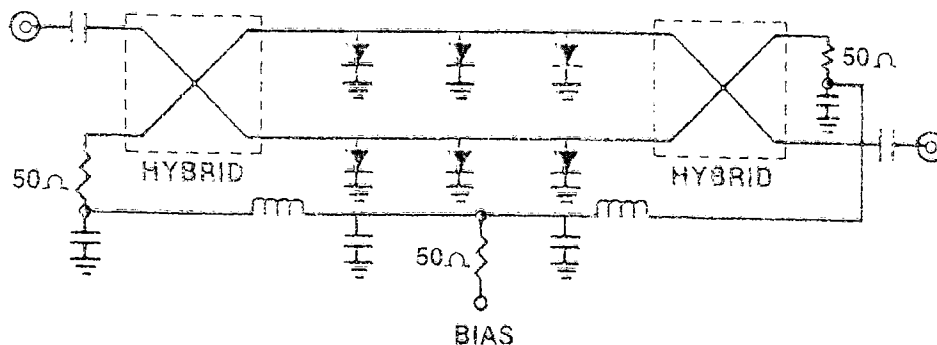
**FEATURES**

- › Solid State Reliability
- › Absorptive Type
- › 3:1 Bandwidth
- › Small Size

**DESCRIPTION**

The AGH Series are current controlled attenuator/modulators that operate over greater than octave bandwidth and are non-reflective at all attenuation levels. Seven models in the series cover the frequency band from 1 to 18 GHz. The RF circuit employs two microstrip arrays of pin diodes that are hybrid coupled at the input and output with Lange couplers for repeatable low loss performance.

**FUNCTIONAL SCHEMATIC**



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OCTOBER 9, 1997

7311G GROVE ROAD, FREDERICK, MARYLAND 21701

Tel.: (301) 662-4700  
Fax: (301) 662-4938

## SPECIFICATIONS

MODEL	FREQUENCY RANGE (GHz)	INSERTION LOSS, MAX (dB)	VSWR MAX.	FLATNESS ( $\pm$ dB) AT MID-BAND ATTENUATION TO LEVELS OF			
				10 dB	20 dB	40 dB	60 dB
AGH-1020	1.0-2.0	1.8	1.5	0.45	0.8	1.5	1.6
	0.75-2.25	1.9	2.0	0.6	1.4	3.0	3.5
AGH-2040	2.0-4.0	1.8	1.5	0.3	0.8	1.5	1.6
	1.5-4.5	1.9	2.0	0.5	1.4	3.0	3.5
AGH-2550	2.5-5.0	2.0	1.6	0.3	0.8	1.5	1.6
	1.9-5.6	2.1	2.1	0.5	1.4	3.0	3.5
AGH-4080	4.0-8.0	2.4	1.7	0.3	0.8	1.5	1.6
	3.0-9.0	2.5	2.2	0.5	1.4	3.0	3.5
AGH-5010	5.0-10.0	2.6	1.7	0.5	0.9	1.5	1.6
	3.75-11.25	2.7	2.2	0.7	1.4	3.0	3.5
AGH-6012	6.0-12.0	2.7	1.8	0.7	1.0	1.5	1.6
	4.5-13.5	2.8	2.2	0.9	1.5	3.0	3.5
AGH-8018	8.0-18.0	3.7	2.0	0.7	1.0	1.5	1.6
	6.0-18.0	3.7	2.0	0.9	1.5	3.0	3.5

NOTE: Extended Frequency Range Specifications Are Typical.

*RA HS  
BG WJ HS  
RW EK*

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## ADDITIONAL SPECIFICATIONS

Monotonicity ..... Guaranteed  
Phase Shift ..... 100° Worst Case, Over Octave  
Frequency Range and 60 dB  
Attenuation Range  
Power Handling: ..... + 20 dBm CW or Peak  
(Operating)

### Switching Speed

High to Low Attenuation (90% to 10% RF) ... 20 nsec, Max  
Low to High Attenuation (10% to 90% RF) ... 100 nsec, Max

Bias Current for Maximum Attenuation .... 50 mA Maximum

## ENVIRONMENTAL RATINGS

Operating Temperature Range: - 54°C to + 125°C  
Non-operating Temperature Range: - 65°C to + 125°C

Humidity  
Shock, Vibration, Altitude  
Temperature Cycling } Per Mil-Std-202C  
Method 103B, 213, 204A, 105C and 102

## OPTIONS

<u>NUMBER</u>	<u>DESCRIPTION</u>
001	Two SMA Male RF Connectors
002	One SMA Male and One SMA Female RF Connector
003	SMA Female Control Connector
200	Removable SMA Female RF Connector

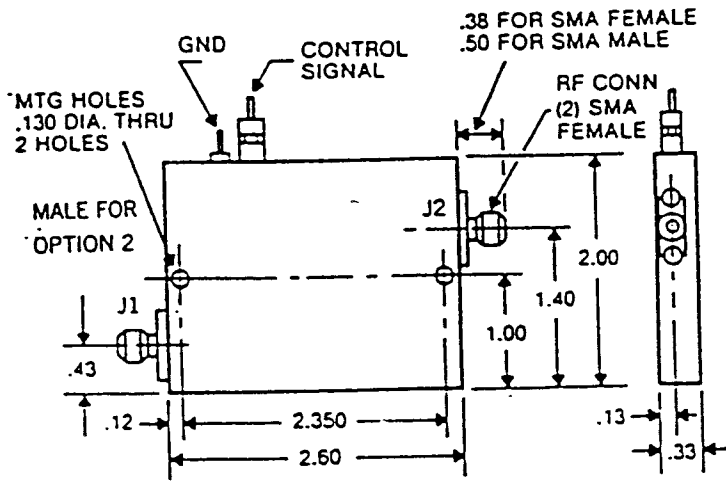
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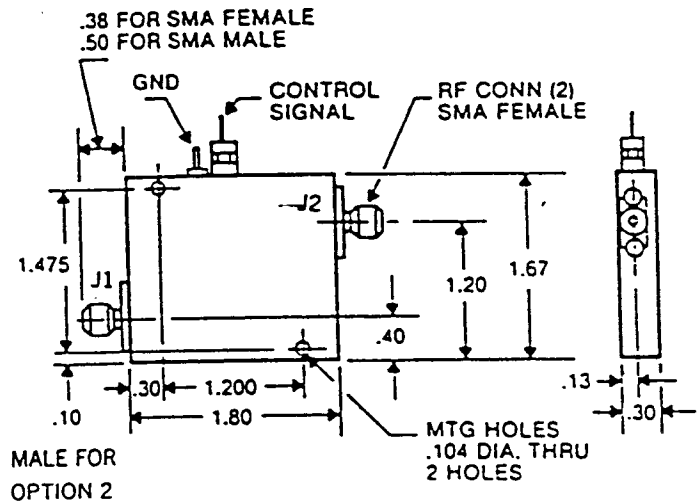
*R.A. HD WP HW  
BG W EK*

# MECHANICAL DATA

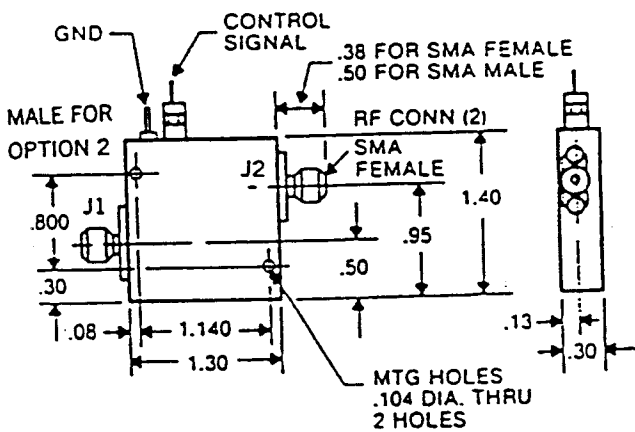
## DIMENSIONS AND WEIGHTS



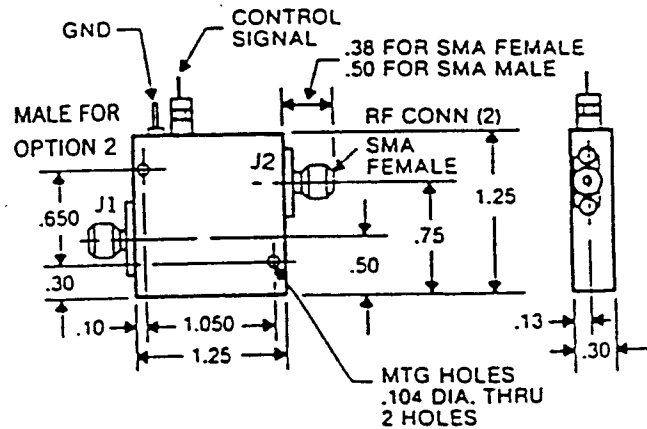
MODEL: AGH-1020  
Wt. 3 oz. (85 gm) approx.



MODELS: AGH-2040, 2550  
Wt. 2 oz. (57 gm) approx.



MODELS: AGH-4080, 5010, 6012  
Wt. 1 oz. (28 gm) approx.



MODEL: AGH-8018  
Wt. 1 oz. (28 gm) approx.

Dimensional Tolerances, unless otherwise indicated: .XX = .02, .XXX = .005

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*Handwritten notes:*  
7/18 HH  
P.A. WP EK  
BG m