



### FEATURES

- 1-18 GHz Frequency Coverage
- Excellent Power Flatness
- High Output Power
- Excellent Harmonic Rejection

### DESCRIPTION

Micro Lambda **MLHG Series** Harmonic Generators/Multipliers cover wideband frequency bands from 1.0-18.0 GHz. They consist of a four stage YIG bandpass filter, a step recovery diode and matching networks at selected input frequency. Multi-Octave and Wideband Standard products provide output power levels of -40 dBm to -30 dBm and harmonic rejection from -45 dBc to -65 dBc minimum, depending on the input frequency selected.

Micro Lambda YIG tuned harmonic generators can be furnished stand alone, with integrated (or remote) analog or digital drivers, or with input 1 watt amplifiers.

### SPECIFICATIONS

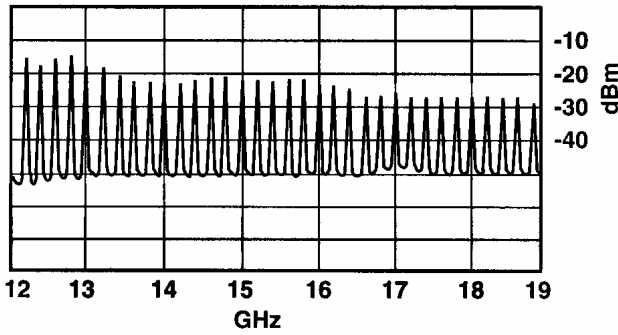
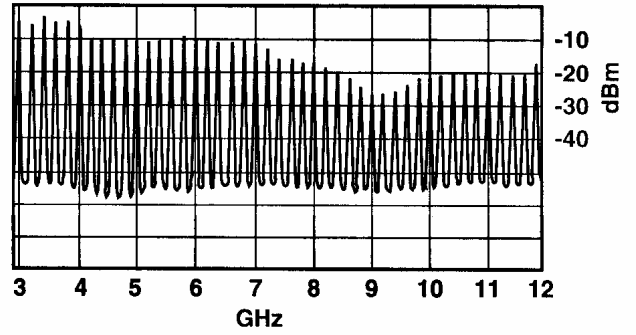
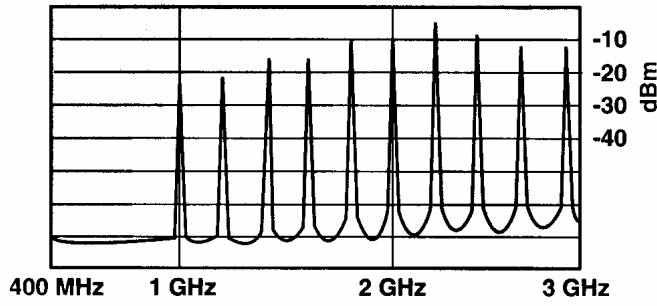
Guaranteed at 0 deg. To +65 deg. C. (Note 1)

#### Wideband

Model No.	MLHG-1218	MLHG-2218	MLHG-5218	MLHG-1018	MLHG-2018
Input Frequency	100 MHz	200 MHz	500 MHz	100 MHz	200 MHz
Output Frequency (Note 2)	1.0 - 18.0 GHz	1.0 - 18.0 GHz	1.0 - 18.0 GHz	2.0 - 18.0 GHz	2.0 - 18.0 GHz
Input Power (dBm)	+ 28 Min. + 30 Max.	+ 27 Min. + 30 Max.	+ 27 Min. + 30 Max.	+ 28 Min. + 30 Max.	+ 27 Min. + 30 Max.
Input VSWR, Max.	2.0:1	2.0:1	2.0:1	2.0:1	2.0:1
Output Power, Min.	-43 dBm	-35 dBm	-28 dBm	-40 dBm	-30 dBm
Harmonic Rejection, Min.	-45 dBc	-60 dBc	-65 dBc	-45 dBc	-60 dBc
Hysteresis, Max.	20 MHz	20 MHz	20 MHz	20 MHz	20 MHz
Tuning Sensitivity	20 MHz/mA	20 MHz/mA	20 MHz/mA	20 MHz/mA	20 MHz/mA
Coil Resistance	6 Ohms	6 Ohms	6 Ohms	6 Ohms	6 Ohms
Coil Inductance	80 mH	80 mH	80 mH	80 mH	80 mH
YIG Heater Power					
Steady State 24 +/- 4V	100 mA	100 mA	100 mA	100 mA	100 mA
Surge 24 +/- 4V	1000 mA	1000 mA	1000 mA	1000 mA	1000 mA
Case Style (Note 3)	31-001-2	31-001-2	31-001-2	31-001-2	31-001-2

Notes: 1) -54 to +85 degree C is available.  
 2) Output frequencies to 26 GHz available.  
 3) 1.7" Case style is available.

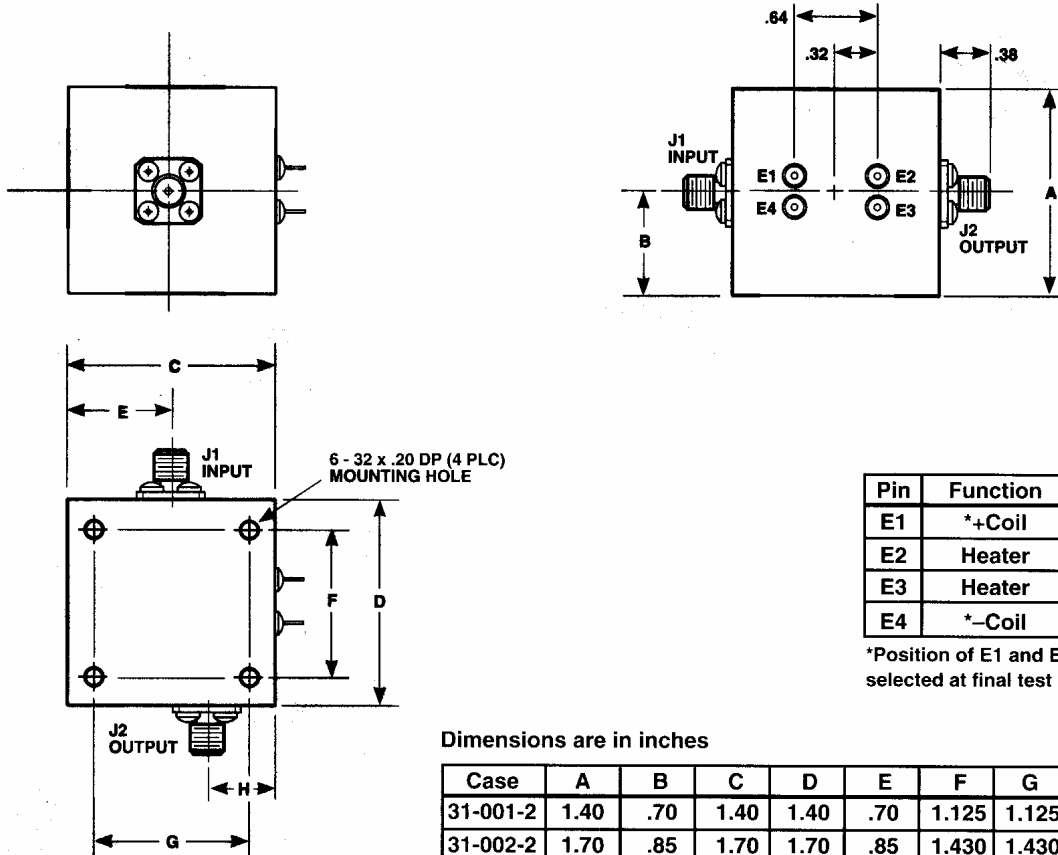
# Typical Performance Graphs



Input Frequency: 200 MHz  
 Input Power: 1 Watt  
 Output Frequency: 1-18 GHz  
 Output Power: -30 dBm min.

**Note:**  
 Undesired lower harmonics (400, 600 and 800 MHz) are suppressed with High Pass Filter.

## CASE DRAWING – 31-001-2, 31-002-2



Pin	Function
E1	*+Coil
E2	Heater
E3	Heater
E4	*-Coil

\*Position of E1 and E4 selected at final test

Dimensions are in inches

Case	A	B	C	D	E	F	G	H	Weight
31-001-2	1.40	.70	1.40	1.40	.70	1.125	1.125	.30	11 oz.
31-002-2	1.70	.85	1.70	1.70	.85	1.430	1.430	.45	14 oz.