

## DESCRIPTION

The HMM Series Multipliers cover the range from 18 - 100 GHz. A wide variety of doubler and tripler designs provide the designer with a solution for many applications. Full waveguide band units are available through 100 GHz. These multipliers are used as frequency extenders in test equipment and as mixer LO's. Standard units are available to be driven with 10-40 mW and high power options are available for 100 mW drive. No DC bias is required.

The HMM Series Multipliers use a pair of GaAs beam lead diodes on a planar circuit mounted in a low loss waveguide structure. Their high bandwidths and small size make them an ideal choice in subsystems.



## Applications

Test Equipment  
Local Oscillators  
Phase locked Loops  
Radar Sources  
Integrated systems

## Features

Low Cost  
High Stability  
High Output Power  
Rugged Construction  
Compact Size

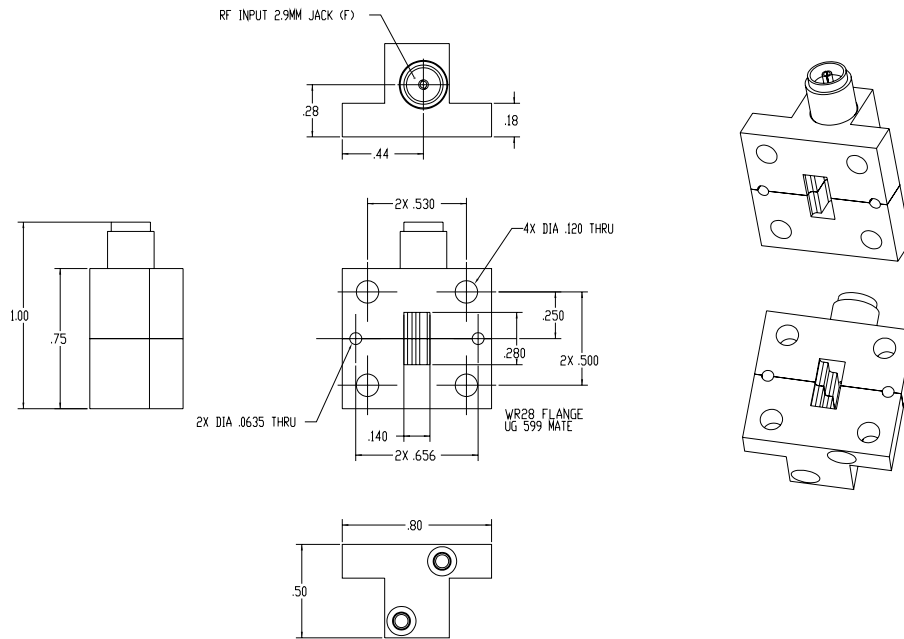
Specifications @ 35°C T<sub>CASE</sub>, Specifications subject to change w/o notice.

Model Number	Input Frequency (GHz)	Output Frequency (GHz)	Standard Output Flange	Input Power (dBm) 2,3	Output Power (dBm) 2,3	Input Connector
HMM2K	9 – 13.25	18 – 26.5	UG – 595/U	+10	0	SMA F
HMM2A	13.25 – 20	26.5 - 40	UG – 599/U	+10	-2	2.9 mm F
HMM3A	8.8 – 13.3	26.5 - 40	UG – 599/U	+10	-7	SMA F
HMM2B	16.5 – 25	33 - 50	UG – 599/U-M	+10	-4	2.9 mm F
HMM3B	11 – 16.6	33 - 50	UG – 599/U-M	+10	-8	SMA F
HMM2U	20 – 30	40 - 60	UG – 599/U-M	+10	-6	2.9 mm F
HMM3U	13.33 – 20	40 - 60	UG – 599/U-M	+10	-10	2.9 mm F
HMM2V	25 – 37.5	50 - 75	UG – 385/U	+10	-7	WR-28
HMM3V	16.66 - 25	50 - 75	UG – 385/U	+10	-17	2.9 mm F
HMM2E	30 – 45	60 - 90	UG – 387/U	+10	-11	WR-22
HMM3E	20 – 30	60 - 90	UG – 387/U	+10	-18	2.9 mm F
HMM2W	37.5 – 55	75 - 110	UG – 387/U-M	+10	-15	WR-19
HMM3W	25 – 36.66	75 - 110	UG – 387/U-M	+10	-19	WR-28
HMM2K/001	9 – 13.25	18 – 26.5	UG – 595/U	+20	+10	SMA F
HMM2A/001	13.25 – 20	26.5 - 40	UG – 599/U	+20	+7	2.9 mm F
HMM3A/001	8.8 – 13.3	26.5 - 40	UG – 599/U	+20	+2	SMA F
HMM2B/001	16.5 – 25	33 - 50	UG – 599/U-M	+20	+5	2.9 mm F
HMM3B/001	11 – 16.6	33 - 50	UG – 599/U-M	+20	0	SMA F

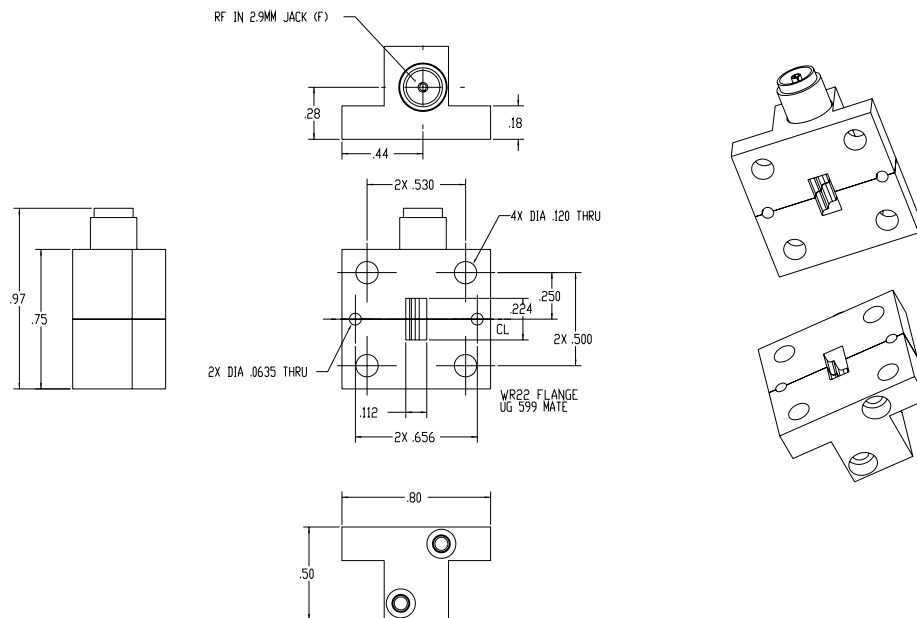
## Notes

1. 0 to +50°C is standard operating temperature range.
2. Output power is at center of band with +10 dBm input level; 2-3 dB roll-off at edges of band.
3. Typical capabilities shown; consult factory with exact requirement.
4. Typical VSWR is 2.5:1.

## Broadband Frequency Multiplier Outlines

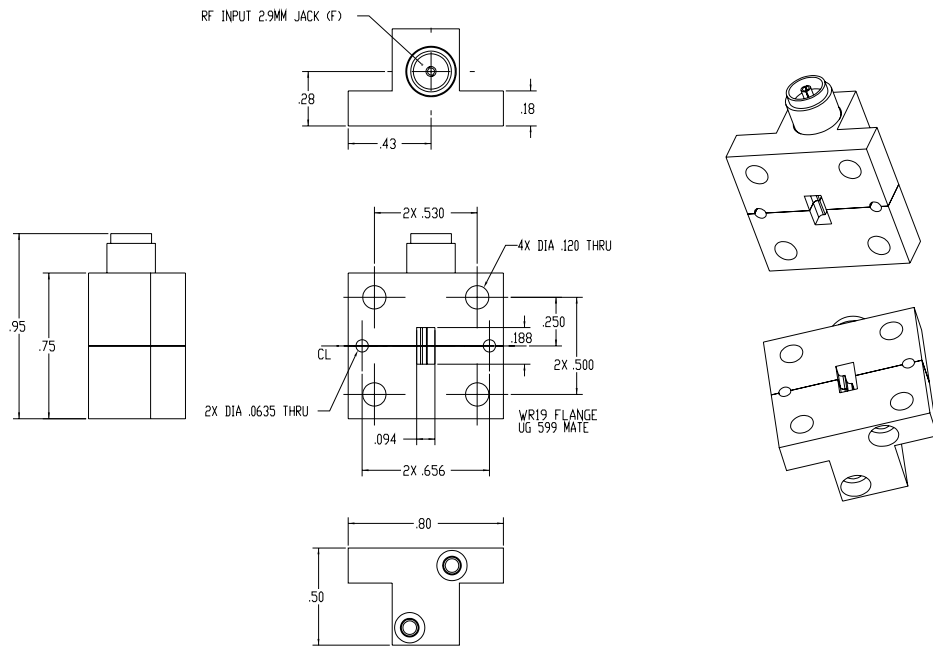


## **Ka-Band Broadband Frequency Doubler**

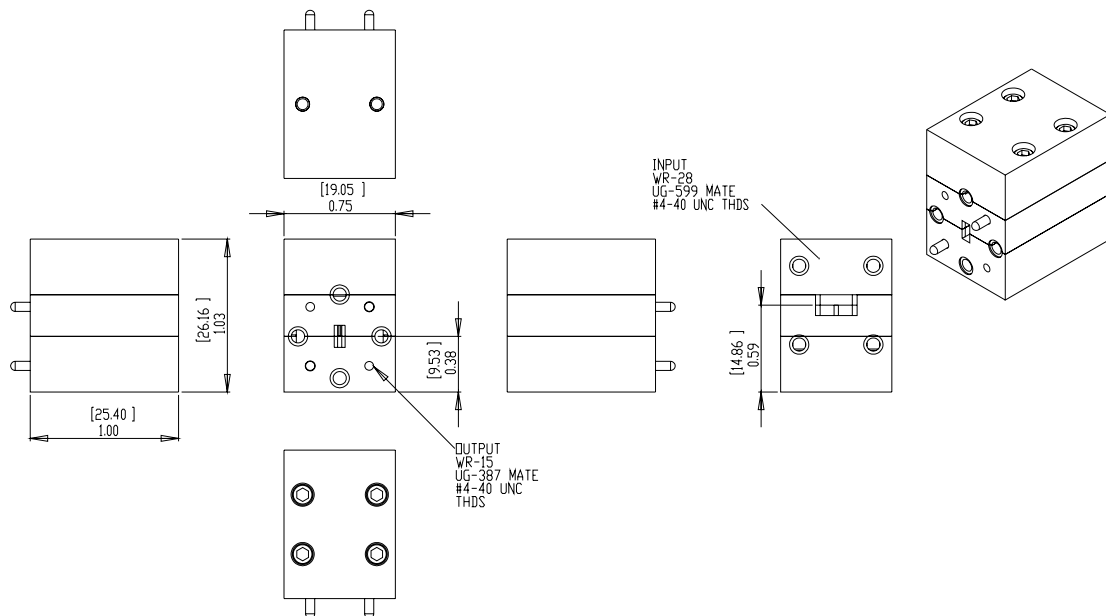


## **B-Band (Q-Band) Broadband Frequency Doubler**

## Broadband Frequency Multiplier Outlines

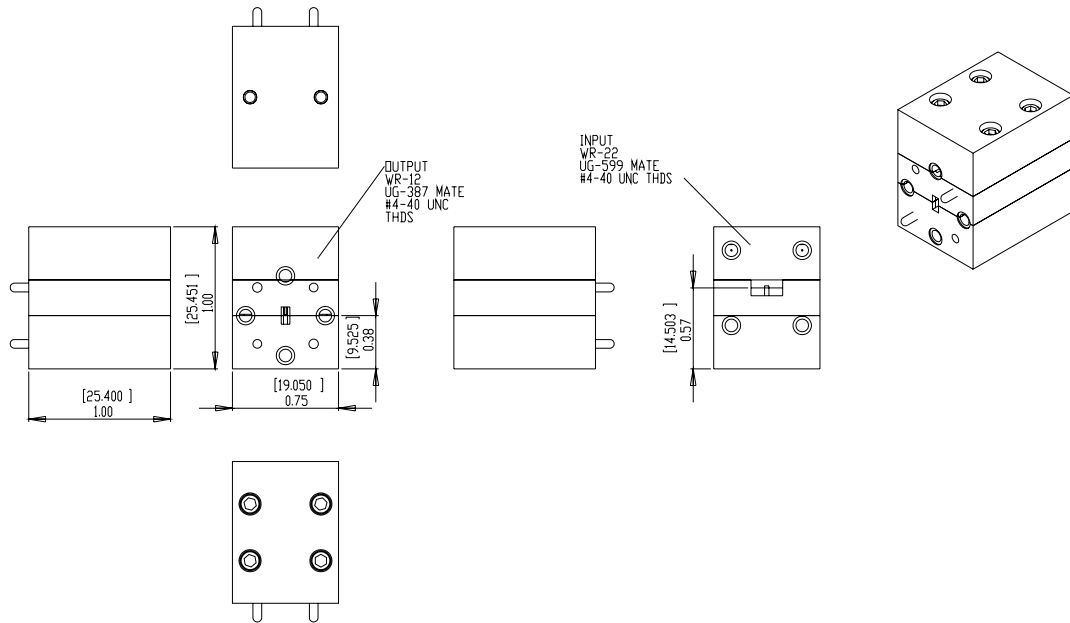


## U-Band Broadband Frequency Doubler

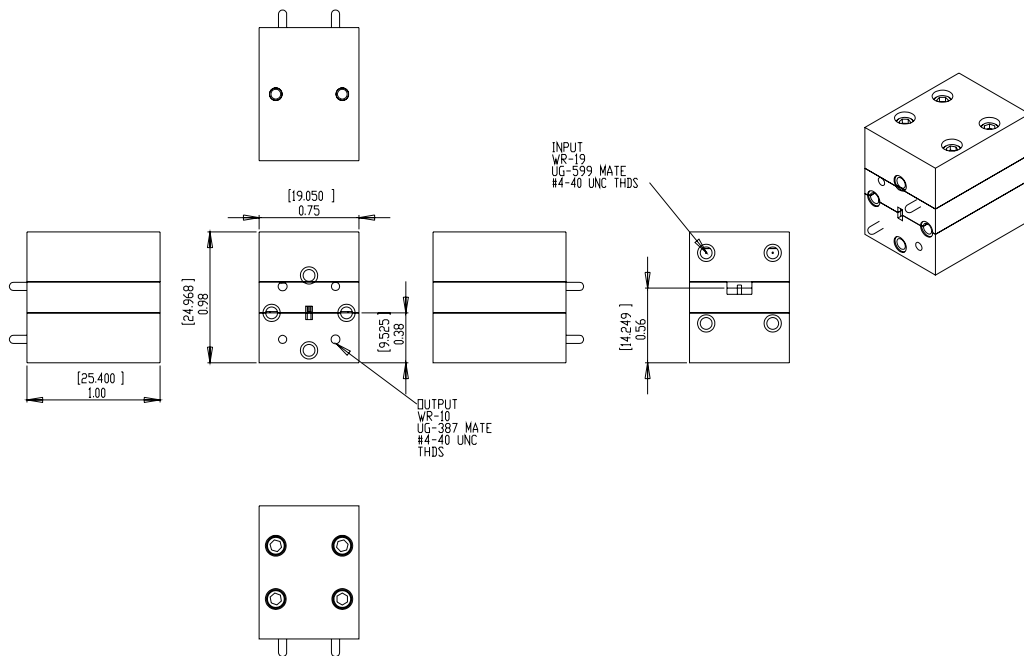


## V-Band Broadband Frequency Doubler

## Broadband Frequency Multiplier Outlines

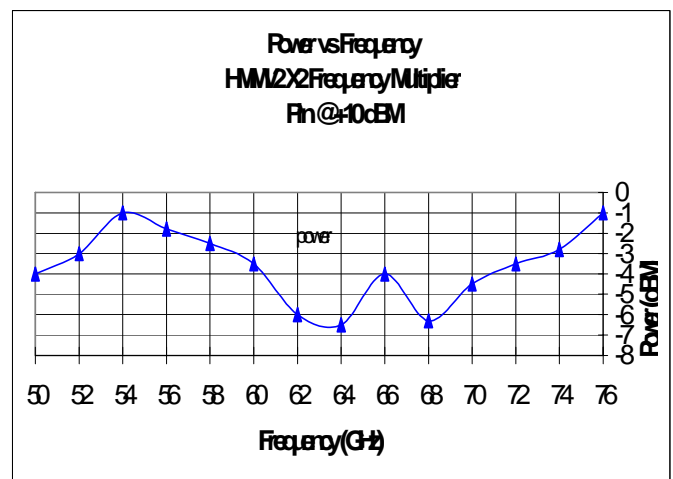
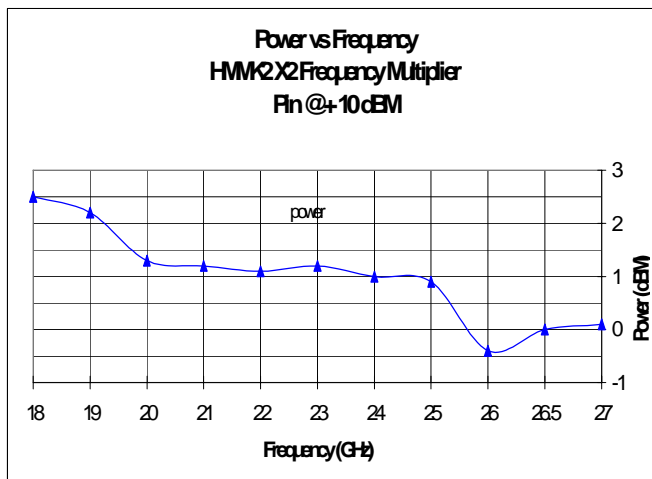
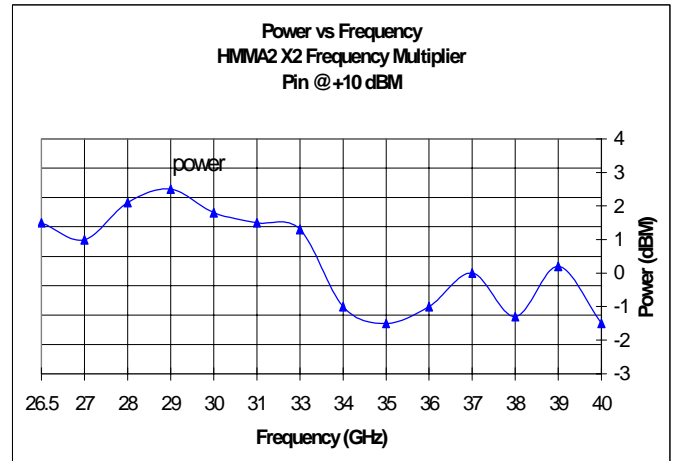
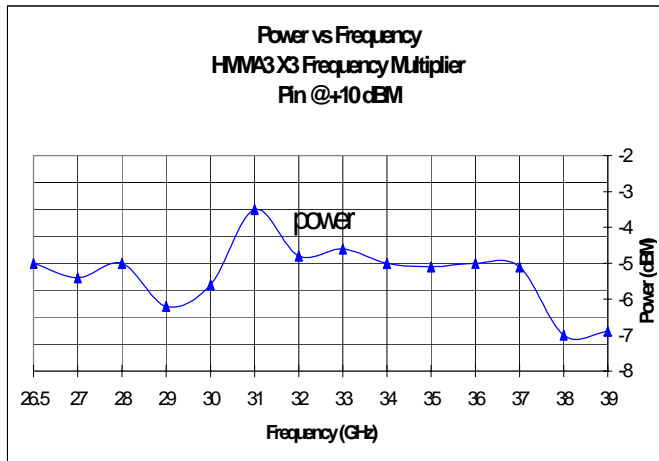


**E-Band Broadband Frequency Doubler**



**W-Band Broadband Frequency Doubler**

## Typical Output Power Data for HMM Broadband Frequency Multipliers



### Requesting quotes

When requesting a quote for HMM frequency multipliers, please specify required frequency range, multiplication factor and any other required specifications. The part number guide below can also be used as a reference for requesting quotes.

#### HMM 2 A / 001 - 383

