



Passive Frequency Multipliers

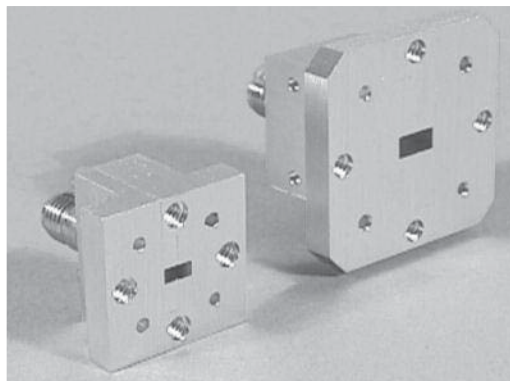
QPM

Characteristics

- ◆ No External Bias Required
- ◆ Full Waveguide Bandwidth
- ◆ Low Conversion Loss

Product Description

QuinStar Technology's **QPM** series of **passive multipliers** cover the output frequency range of 18 to 110 GHz. The design enhances either even or odd harmonics while suppressing unwanted odd or even harmonics. No external bias is required providing flexibility for system implementation. Standard units are rated over the 0 to +50°C operating temperature range with a maximum



input power of +22 dBm. Standard RF interfaces are SMA or K female coaxial for the input and waveguide for the output. Other RF interface configurations are available.

QuinStar can provide higher output power over narrower bandwidth. QuinStar also produces series QMM Active Multipliers over 18-110 GHz.

Specifications

Output Waveguide Band	Output Frequency Range, GHz	Multiplication Factor	Input Frequency Range, GHz	Input Power Level ¹ , dBm	Output Power Level ¹ , dBm min	Output Waveguide	Input Connector or Waveguide ²
K	18-26.5	2	9.0-13.25	20	8	WR-42	SMA
Ka	26.5-40	2	13.25-20.0	20	8	WR-28	SMA
Ka	26.5-40	3	8.67-13.33	20	5	WR-28	SMA
Q	33-50	2	16.5-25	20	8	WR-22	SMA
Q	33-50	3	11-16.67	20	3	WR-22	SMA
U	40-60	2	20-30	20	7	WR-19	K (F)
U	40-60	3	13.33-20	20	3	WR-19	SMA
V	50-75	2	25-37.5	20	5	WR-15	K (F), WR-28
V	50-75	3	16.67-25	20	3	WR-15	K (F)
E	60-90	2	30-45	20	3	WR-12	K (F), WR-22
E	60-90	3	20-30	20	3	WR-12	K (F)
W	75-110	2	37.5-55	18	2	WR-10	V (F), WR-19
W	75-110	3	25-36.67	20	0	WR-10	K (F), WR-28

¹ Typical optimum input power level. Output power saturates at around this level. Lower input power produces lower output power in non-linear fashion. Maximum safe power level is typically 2 dB higher. Higher output power available over narrower range.

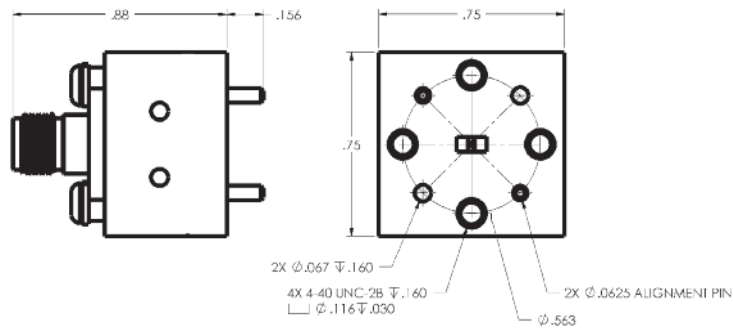
² Other Waveguide or connectors available as custom products. Please contact QuinStar.

³ Outline Drawings available upon request.

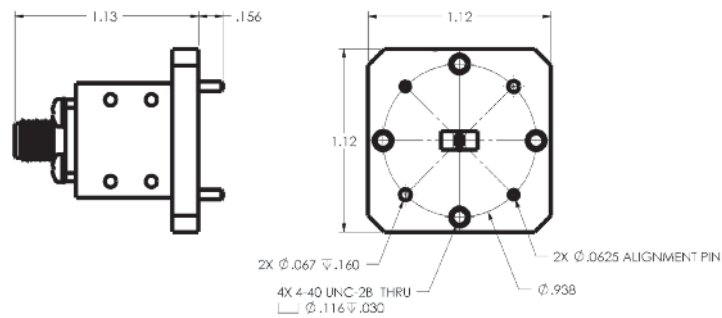


Passive Frequency Multipliers

QPM



V-Band Doubler



Q-Band Doubler

Ordering Information

Model Number **QPM -****AB CD E F**

output center frequency rounded to nearest GHz

(A0 = 100 GHz, A1 = 101 GHz, B1 = 111 GHz, etc.)

power output in dBm

output waveguide band designator

K = K-band	V = V-band
A = Ka-band	E = E-band
Q = Q-band	W = W-band
U = U-band	

multiplying factor

2 = x2	3 = x3
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