M1315(A)-G40-H
High Power AO Modulator

APPLICATIONS
- Material Processing
- Via Hole Drilling
- Surface texturing
- Hole Perforation

The M1315-G40 series are low loss single beam modulators optimized for duty cycled applications and designed to minimize thermal lensing and reduce beam degradation at high optical powers.

FEATURES
- Low loss
- High Optical Power
- All Solid-State

SPECIFICATIONS (TYPICAL)

Operating Wavelength: 9.4um or 10.6um (specify)*
Interaction Material: Germanium
Active Aperture:
- H=6 6mm.H x 15mm.W
- H=7 7mm.H x 15mm.W
- H=8 8mm.H x 15mm.W
- H=9 9mm.H x 15mm.W (9.4um only)
Centre Frequency (fc): 40MHz
RF Bandwidth: 10MHz
Design duty cycle 25%, Maximum duty cycle 100% with caution
Diffraction Efficiency at fc: > 85%, 90% typical
RF Power for Max. D/E < 180 Watts peak total (-8)
Static Insertion Loss: < 5%
Maximum Optical Power: 600 Watts, 7mm dia. Gaussian beam
Laser Polarization: Linear, Horizontal
Water Cooling (Minimum): > 2 Liter/Min. @ < 20ºC

Single Beam Performance at 10.6um
Bragg Angle at 10.6um: 38.5 mrad, nominal
Separation Angle at 10.6um: 77.1 mrad (40MHz)
Optical Rise Time: 0.12usec / mm beam diameter
Diffraction Efficiency: > 85%, 90% typical
RF driver: RFA641-BR

Single Beam Performance at 9.4um
Bragg Angle at 9.4um: 34.2 mrad, nominal
Separation Angle at 9.4um: 68.4 mrad (40MHz)
Optical Rise Time: 0.12usec / mm beam diameter
Diffraction Efficiency: > 85%, 90% typical
RF driver: RFA641-BR

Options:
- M1315 : Copper case parts (standard)
- M1315A : Aluminium case parts
- * : other wavelengths in the 2.5μm - 12μm range.
M1315(A)-G40-H
High Power AO Modulator

OUTLINE DRAWING

Dimensions: mm

Case parts in contact with coolant are fabricated from Te-Copper except M1315A

Refer application note AN0901 regarding Coolant Specification

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.
Tel: (703) 321 8301 Fax: (703) 321 8546
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.
In-house: Crystal Growth,
Optical Polishing,
A/R coating, Vacuum Bonding