

## Ge ACOUSTO-OPTIC MODULATOR Dual Frequency Germanium AOM for High-Power, 9.4 $\mu$ m Applications I-M050-10C11V41-P3-GH75



An acousto-optic modulator specifically designed for use in dual channel 9.4 $\mu$ m wavelength, PCB via drilling systems. Combining optimum grade mono-crystalline germanium, high quality optical finishing, robust anti-reflection coating and high reliability transducer bonding, with novel acoustic management and opto-mechanical design techniques, we have successfully achieved exceptional thermal management whilst maintaining high RF power handling, transmission and diffraction efficiency. In addition to the specifications indicated, we also offer alternative wavelengths, RF frequencies, active apertures & a wide range of custom housing configurations.

This product conforms to the requirements of the European Union Directive 2011/65/EU of the European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment. Our scientists and engineers are available to assist in selecting the most appropriate Acousto-Optic device and RF driver for your application.

### Key Features

- Dual Channel
- High optical power handling
- Low insertion loss
- Excellent pointing stability
- Superior beam quality
- High diffraction efficiency
- Superior beam quality

### Applications

- Industrial (material processing)
  - PCB via drilling

### Specifications

|                                |                                       |
|--------------------------------|---------------------------------------|
| Device:                        | <b>AO Modulator</b>                   |
| Interaction material:          | Germanium                             |
| Wavelength:                    | 9.4 $\mu\text{m}$                     |
| Maximum optical power density: | $>15 \text{ W/mm}^2$                  |
| AR coating reflectivity:       | $<0.2 \%$ per surface                 |
| Transmission:                  | $>96.5 \%$                            |
| Frequency:                     | 40 MHz / 60 MHz                       |
| Optical polarisation:          | Linear, Horizontal (parallel to base) |
| Active aperture:               | 9.6 mm                                |
| Acoustic mode:                 | Compressional                         |
| Water connector:               | 6 mm OD straight push fit             |
| Diffraction efficiency:        | $\geq 90 \%$                          |
| RF Power:                      | Max 120 W (Total)                     |
| Rise-time (10-90%):            | 120 ns/mm                             |
| Housing:                       | Refer to drawing                      |
| Recommended RF Driver:         | HP040-060-150ADG-A10-2X               |

