High Power Free-Space Isolator



100W, 1550nm, 5 mm aperture



DATASHEET

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The IHPF series high-power free-space optical isolators are engineered for 100-W-class, single-polarization laser systems and use Agiltron's proprietary configuration with advanced thermal-management technologies to achieve efficient heat removal under high optical radiation. These dual-stage isolators provide >45 dB isolation, with power-handling capability determined by aperture size; beam expansion and collimation are required to match the beam to the aperture and reduce power density.

Features

- Broadband
- Large Aperture
- Low Loss
- High Reliability
- KW Optical Power Handling
- Polarization Dependent Input

Applications

- Laser System
- Lab Use
- Instruments

Specifications

| Parameter | Min | Typical | Max | Unit |
|--------------------------------|------|---------|------|------|
| Center Wavelength | 450 | | 2400 | nm |
| Wavelength Range (± center) | 1530 | 1550 | 1560 | nm |
| Insertion Loss | 0.2 | 0.5 | 0.6 | dB |
| Isolation | 30 | 40 | 45 | dB |
| Forward Optical Power (CW) [2] | | | 100 | W |
| Backward Optical Power(CW) [3] | | | 10 | W |
| Aperture | | 5 | | cm |
| Operating Temperature | -5 | | 60 | °C |
| Storage Temperature | -40 | | 85 | °C |

Notes:

- [1]. For 1550nm, other wavelengths may have a higher loss.
- [2]. CW tested. Short pulse of high energy may damage the isolator
- [3]. CW tested, Short pulse of high energy may damage the isolator

Note: For a polarized input light version, the isolation is optimized to block the light reflection of the same polarization. Although lights of other polarizations may also be blocked, the extinction may be poor. PM isolators can be specially made to block backward propagating lights of all polarizations. PM isolators can also be made with a light polarizing function.

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this <u>link</u>]:

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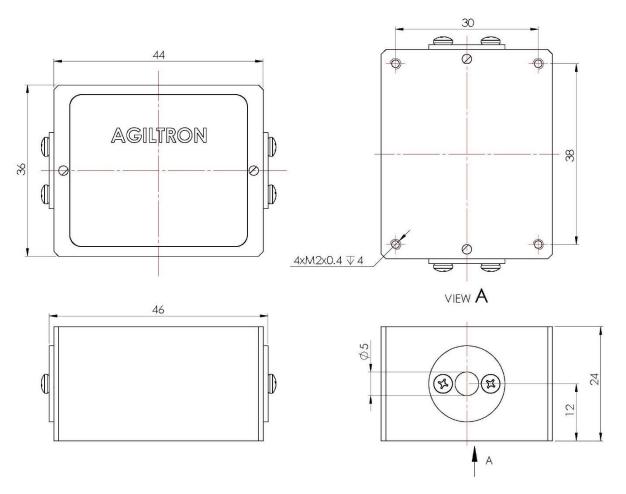


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Mechanical Dimensions (mm)



Ordering Information

| | 1 | | | | | | 1 | 1 |
|--------|------|--------------------------|------------------------|----------------------------|---|--|---|---|
| Prefix | Туре | Wavelength | Aperture | Package | Forward Power | Backward Power | | |
| IHPF- | | 1550nm = 5 1310nm = 3 | 5mm = 5 Special = 0 | Regular = 1 Special = 0 | 30W = 3 50W = 5 100W = 1 Special = 0 | 5W = 1 10W = 2 20W = 3 50W = 4 100W = 5 Special = 0 | | |

RED color for special order