**FLM Garnet — Low Moment Faraday Rotator**

For Non-Reciprocal Passive Optical Components (Isolators, Circulators, Switches, Interleavers)

Bismuth-doped rare-earth iron garnet thick films are the principal Faraday rotator materials for non-reciprocal devices in telecommunications applications. They have high specific rotations and are highly transparent in the near infrared telecom band. Combined with the correct polarizing or birefringent elements, these Faraday rotators can be made into polarization dependent and independent isolators as well as incorporated into many other non-reciprocal devices. Integrated Photonics’ low moment FLM Faraday rotator composition provides a good compromise between low temperature dependence and low saturation magnetization.

**Product Features**

- Third-party certified RoHS compliant
- Excellent crystal quality for high isolation ≥ 40 dB
- Good process control for low insertion loss
  - ≤ 0.05 dB @ 1310 nm, ≤ 0.08 dB @ 1550 nm
- Low magnetic saturating field < 350 Oe
- Anti-Reflection coating per customer requirements
  - Pinhole free
  - Reflectance ≤ 0.15% per side
  - Highly durable against abrasion, humidity, high processing temperatures and other environmental factors
- Custom fabrication to customer’s specification
  - A wide variety of wavelengths are available or can be fabricated
  - Coatings available for air, epoxy, uncoated or in combinations

**Ordering Information**

Part numbers are given as **FLM-(Wavelength)-(Rotation Tolerance)-(AR Coating)-(Dimensions in mm)**

- Wavelength, \(\lambda\) (nm)—Typical wavelengths are 1310, 1480 and 1550 nm, but custom wavelengths are available by customer request. All Faraday rotations are 45 degrees at 22°C and the center specification wavelength unless otherwise specified.
- Rotation Tolerance, \(\pm \Delta \theta\) (degrees)—The Faraday rotation is given to a specific tolerance, typically \(\pm 0.5, \pm 1.0\) or \(\pm 2.0\) degrees.
- Anti-Reflection (AR) Coatings—Films may be coated to Air or Epoxy, Uncoated or to some custom specification. Ordering information must specify coatings for both sides such as AA-to Air both sides, EE-to Epoxy both sides, AE-One side to Air and one to Epoxy or UU-uncoated.
- Dimensions (mm)—The part number gives the square dimensions of the part in mm. Standard size is 11x11 mm. e.g. **FLM-1550-1.0-AA-11.0** would be a Faraday rotator for 1550 nm with 45.0 \(\pm\) 1.0 degrees Faraday rotation, Anti-Reflection-coated 2 sides to Air in the form of a square 11.0 mm on a side.