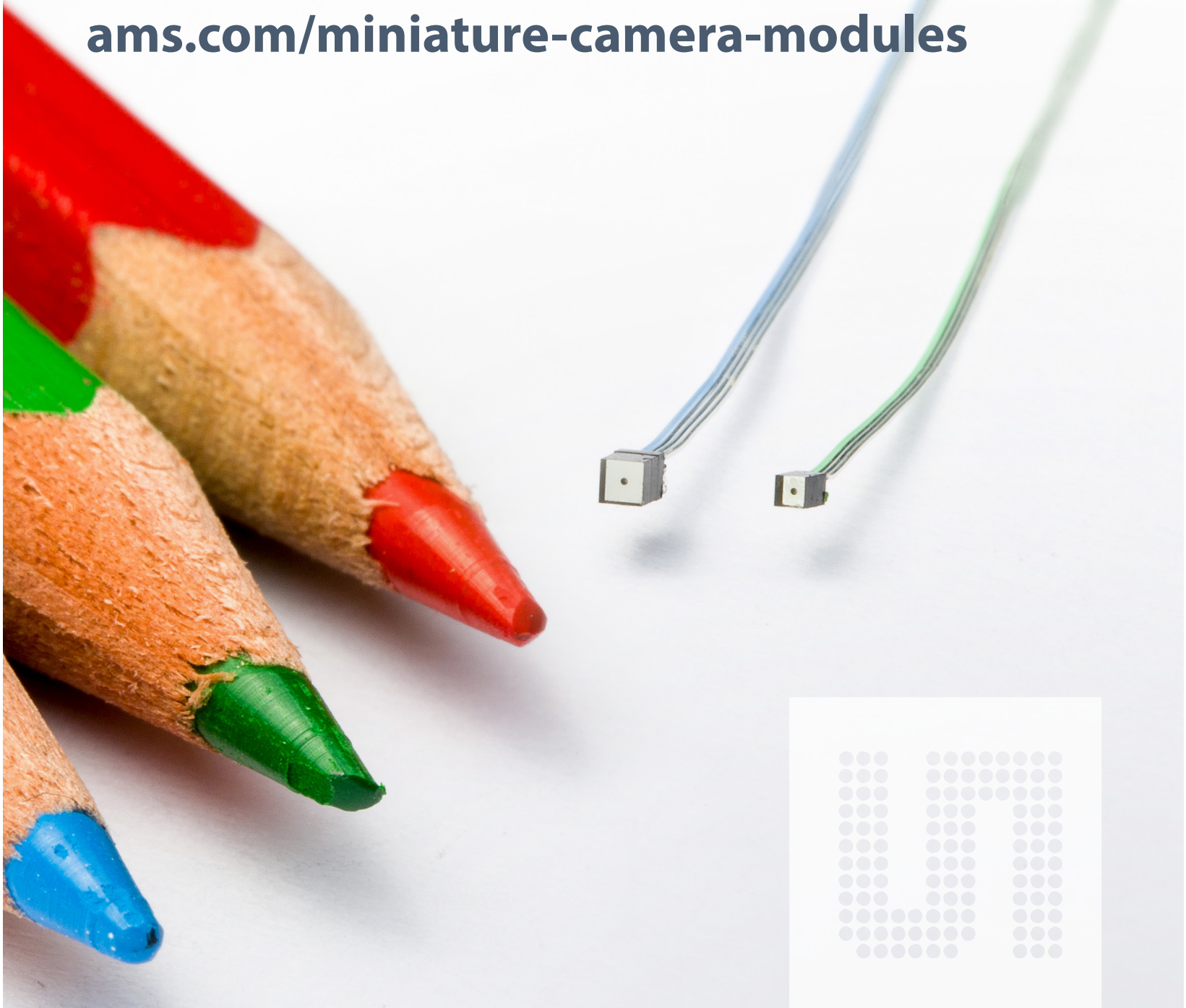


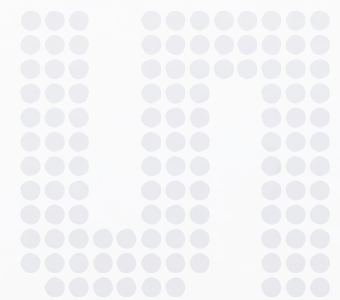
Miniature Camera Modules

ams.com/miniature-camera-modules



NanEye Miniature Camera Modules

- Smallest digital camera modules
- Small size ideal for a variety of medical endoscope, IoT and robotic applications
- Integrated optics and cable assembly



**Sensing
is life.**

General Description

The ams NanEye product family offers unique solutions for size-critical medical applications like endoscopy or IoT/home robotics. The camera modules feature a digital interface making it easier to connect and ensure communication and data transfer over longer distances. They include an integrated lens and attached 2m cable for assembly in the end application, which can be extended to a 3m length upon request. The newly introduced NanEyeM features a Multi Element Lens, which improves the effective resolution of the sensor and reduces distortions.

For the consumer and Home & Building Automation market, the additional single ended interface mode (SEIM) allows the reduction of external electronics for applications with short connections or not requiring a cable, and an easier connection to commonly used SOC processors without needing the LVDS deserialization.

Multi-Element Lens

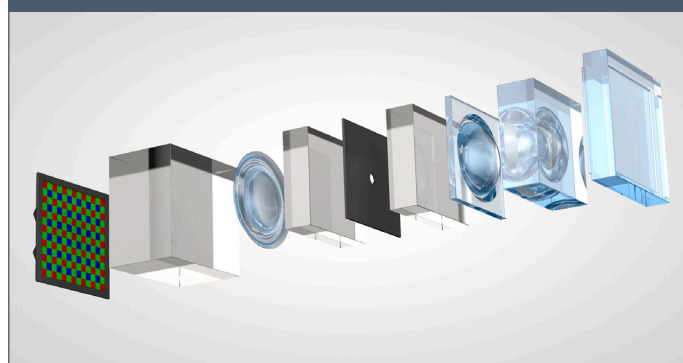
- NanEye M
- Aspherical lens (3 surfaces)
- Bio compatible, plane borosilicate D 263°T eco glass
- Improved MTF >50% in the corners
- Lower distortion <15% (LGD), ~6% (TV)
- Less color aberration <1Px

Applications

- Reusable and disposable endoscopy
- Capsule endoscopy
- Dental 3D scanning
- HABA / smart home
 - Home robots
 - Occupancy detection
- Eye tracking (VR/AR headsets)
- IoT sensor hubs

| Specification | Unit | NanEye 2D | NanEye XS | NanEye M |
|---------------|-------|--------------|--------------|---------------------|
| Size | mm | 1x1 | 0.7x0.7 | 1x1 |
| Length | mm | 1.34 – 1.68 | 1.17 | 2.15 |
| Resolution | pixel | 250 x 250 | 200 x 200 | 320 x 320 |
| Lens | | Single | Single | Multi Element |
| MicroLens | | No | Yes | Yes |
| Pixel | µm | 3 | 2.4 | 2.4 |
| Frame Rate | fps | 43 - 63 | 13 - 55 | 4 - 50 |
| MTF | | | | |
| Dynamic Range | dB | 58 | 60 | 60 |
| Interface | | LVDS | LVDS | LVDS & single ended |
| LVDS speed | Mbps | 1x 38 @ 50Hz | 1x 28 @ 55Hz | 1x 63 @ 49Hz |

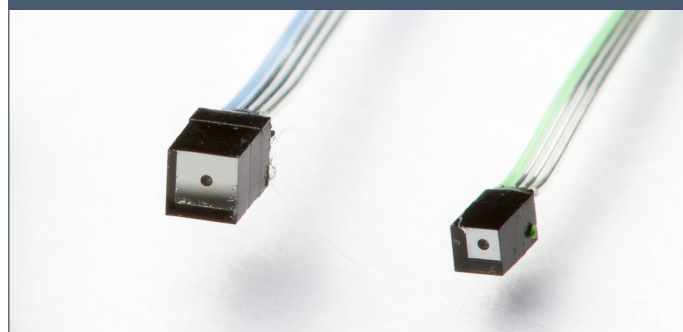
Multi-Element Lens Explosion View



Application Example



Module Examples



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