Camera name, Focal length, lens diameter, FOV, price

| Camera Name | Focal Length | Lens Diameter | FOV | Price | Resolution | Aperture size | Picture dimensions | Sensor mode | Notes | Link |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Arducam IMX519 | 2.87+-5% | M12\*P0.5mm | 122x110x94 | $37.99 | 1080p |  | 4656x3496 | CMOS | When use this camera, please add dtoverlay=imx519,vcm=off under the line [all] For further information, please refer to: bit.ly/ArducamDocs-B0449  Straight from Amazon | [Link](https://www.amazon.com/dp/B0C53BBMLG/ref=sspa_dk_detail_4?psc=1&pd_rd_i=B0C53BBMLG&pd_rd_w=agWsv&content-id=amzn1.sym.7446a9d1-25fe-4460-b135-a60336bad2c9&pf_rd_p=7446a9d1-25fe-4460-b135-a60336bad2c9&pf_rd_r=E77CCX2MX5EW8KTQY3QG&pd_rd_wg=s8PX0&pd_rd_r=afbbc972-d736-41e6-b9ed-80e1f0dcfbcb&s=electronics&sp_csd=d2lkZ2V0TmFtZT1zcF9kZXRhaWw) |
| DORHEA OV5647 | 3.6mm |  | 72 degrees | $15.99 | 1080p | 1.8 | 29592 x 1944 | CCD? | Amazon says this is CMOS, but some of the documentation says CCD | [Link](https://www.amazon.com/Dorhea-Raspberry-Camera-Automatic-Adjustable/dp/B07DNSSDGG/ref=sr_1_6?crid=2PXYI1R8IJ4QM&dib=eyJ2IjoiMSJ9.SdZxeeuAaWgC9GeoeEJUFOyYjAeqdEP5pZ9Cy64vaBWq9bv8a_rjpUd_qPS7VdG0zhD-QO70AYkKt6meJD3UZjtQYaroqEIE3f54BUN1pPvS8EBCJj31NoxLKKkE22XbaDwQaD_B_jw-H-WL1Y0ZAURO-NRobtqB376AzV7FomED3eJlKlRbL1eFelg5QqfTY8HALYCMST0GJBMoW8tziyD363dj18fBvUE8lfboy_s.ustlzWn__raZII8xal4fwohMnwR1TtqqJ2NttJmcwPQ&dib_tag=se&keywords=raspberry%2Bpi%2Bcamera&qid=1729863816&sprefix=raspberry%2Bpi%2Bcamer%2Caps%2C98&sr=8-6&th=1) |
| Arducam 4-12mm Varifocal lens | 4mm-12mm | 33x43mm | 87.2-39  ??14.3/10.8 | $49.99 |  | Variable, max 1.6f stop |  |  | This is a lens, not a camera!  There was some funky stuff going on about the FOV, there were two different places on the Amazon page saying two different FOV’s | [Link](https://www.amazon.com/Arducam-Varifocal-C-Mount-Raspberry-Adapter/dp/B088GTLJC6/ref=sr_1_12_sspa?crid=30EZJG41QVKAS&dib=eyJ2IjoiMSJ9.WRgTG5bv64dAzvRbKDzOxxe6w6MQUdSUh0zxqMS1XVB8HRn6xC8HpzC4J90U98d9FE0wdJP2JNCPZhFV3NZnCnE3TSoGxyVWu90TCrKIP42Lhf_y_zRg2g9D9LVFHXikm0n6pMc7l3ygTjP84C2RlKmbTDxgGsADHdjbFPHVhWSjKxM6AAinrGyvr9Kb-MWQSoTwfC8bTiF1WnVo48DASehKq4SAk_JbrgnRovhaT9U.y4WIlU9WDT7fGcE0zGzN9HLr5kSmTGJI68XbZLKxShw&dib_tag=se&keywords=c+mount+raspberry+pi+camera+lens&qid=1730990600&sprefix=c+mont+raspberry+pi+camera+lens%2Caps%2C97&sr=8-12-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9tdGY&psc=1) |
| Arducam 2.8-12mm Varifocal lens | 2.8 - 12mm | 44.5x58.5mm | 125-43 deg | $64.99 |  | Variable max 1f stop |  |  | This is a lens, not a camera! | [Link](https://www.amazon.com/dp/B088GQHVY3?ref=emc_s_m_5_i_atc) |
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[Case](https://www.amazon.com/Zulkit-Waterproof-Electrical-Transparent-150x150x90/dp/B07RNM73P3?pd_rd_w=zPU9x&content-id=amzn1.sym.ea1d9533-fbb7-4608-bb6f-bfdceb6f6336&pf_rd_p=ea1d9533-fbb7-4608-bb6f-bfdceb6f6336&pf_rd_r=N1Z1JFZK7CGKH59FTNJX&pd_rd_wg=Bfotc&pd_rd_r=c8265426-dc0d-479f-94ed-1551260758b6&ref_=sspa_dk_detail_img_2&sp_csd=d2lkZ2V0TmFtZT1zcF9kZXRhaWxfdGhlbWF0aWM&th=1)

<https://www.polycase.com/ml-48f>

[Undistortion code](https://medium.com/@kennethjiang/calibrate-fisheye-lens-using-opencv-333b05afa0b0)

[Review later](https://www.raspberrypi.com/documentation/accessories/camera.html)

|  | **Camera Module v1** | **Camera Module v2** | **Camera Module 3** | **Camera Module 3 Wide** | **HQ Camera** | **AI Camera** | **GS Camera** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Net price | $25 | $25 | $25 | $35 | $50 | $70 | $50 |
| Size | Around 25 × 24 × 9 mm | Around 25 × 24 × 9 mm | Around 25 × 24 × 11.5 mm | Around 25 × 24 × 12.4 mm | 38 × 38 × 18.4mm (excluding lens) | 25 × 24 × 11.9mm | 38 × 38 × 19.8mm (29.5mm with adaptor and dust cap) |
| Weight | 3g | 3g | 4g | 4g | 30.4g | 6g | 34g (41g with adaptor and dust cap) |
| Still resolution | 5 megapixels | 8 megapixels | 11.9 megapixels | 11.9 megapixels | 12.3 megapixels | 12.3 megapixels | 1.58 megapixels |
| Video modes | 1080p30, 720p60 and 640 × 480p60/90 | 1080p47, 1640 × 1232p41 and 640 × 480p206 | 2304 × 1296p56, 2304 × 1296p30 HDR, 1536 × 864p120 | 2304 × 1296p56, 2304 × 1296p30 HDR, 1536 × 864p120 | 2028 × 1080p50, 2028 × 1520p40 and 1332 × 990p120 | 2028 × 1520p30, 4056 × 3040p10 | 1456 × 1088p60 |
| Sensor | OmniVision OV5647 | Sony IMX219 | Sony IMX708 | Sony IMX708 | Sony IMX477 | Sony IMX500 | Sony IMX296 |
| Sensor resolution | 2592 × 1944 pixels | 3280 × 2464 pixels | 4608 × 2592 pixels | 4608 × 2592 pixels | 4056 × 3040 pixels | 4056 × 3040 pixels | 1456 × 1088 pixels |
| Sensor image area | 3.76 × 2.74 mm | 3.68 × 2.76 mm (4.6 mm diagonal) | 6.45 × 3.63mm (7.4mm diagonal) | 6.45 × 3.63mm (7.4mm diagonal) | 6.287mm × 4.712 mm (7.9mm diagonal) | 6.287mm × 4.712 mm (7.9mm diagonal) | 6.3mm diagonal |
| Pixel size | 1.4 µm × 1.4 µm | 1.12 µm × 1.12 µm | 1.4 µm × 1.4 µm | 1.4 µm × 1.4 µm | 1.55 µm × 1.55 µm | 1.55 µm × 1.55 µm | 3.45 µm × 3.45 µm |
| Optical size | 1/4" | 1/4" | 1/2.43" | 1/2.43" | 1/2.3" | 1/2.3" | 1/2.9" |
| Focus | Fixed | Adjustable | Motorized | Motorized | Adjustable | Adjustable | Adjustable |
| Depth of field | Approx 1 m to ∞ | Approx 10 cm to ∞ | Approx 10 cm to ∞ | Approx 5 cm to ∞ | N/A | Approx 20 cm to ∞ | N/A |
| Focal length | 3.60 mm +/- 0.01 | 3.04 mm | 4.74 mm | 2.75 mmm | Depends on lens | 4.74 mm | Depends on lens |
| Horizontal Field of View (FoV) | 53.50 +/- 0.13 degrees | 62.2 degrees | 66 degrees | 102 degrees | Depends on lens | 66 ±3 degrees | Depends on lens |
| Vertical Field of View (FoV) | 41.41 +/- 0.11 degrees | 48.8 degrees | 41 degrees | 67 degrees | Depends on lens | 52.3 ±3 degrees | Depends on lens |
| Focal ratio (F-Stop) | F2.9 | F2.0 | F1.8 | F2.2 | Depends on lens | F1.79 | Depends on lens |
| Maximum exposure time (seconds) | 0.97 | 11.76 | 112 | 112 | 670.74 | 112 | 15.5 |
| Lens Mount | N/A | N/A | N/A | N/A | C/CS- or M12-mount | N/A | C/CS |
| NoIR version available? | Yes | Yes | Yes | Yes | No | No | No |