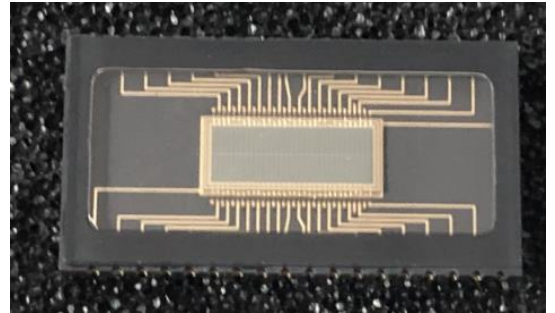


Silicon avalanched photodiode

Array (2*32)



Description

APD24168A32-2 is avalanche photodiode array with optimized sensitivity at 905nm.

Features

- * Top illumination planar APD
- * High gain at low bias voltage
- * Operating temperature is from -40 to +105°C
- * Storage temperature is from -40 to +120°C

Applications

- * Laser range finder, Lidar
- * Area scanners for safety, speed measurement
- * 3D Laser scanner

Absolute Maximum Ratings (Ta=25°C)

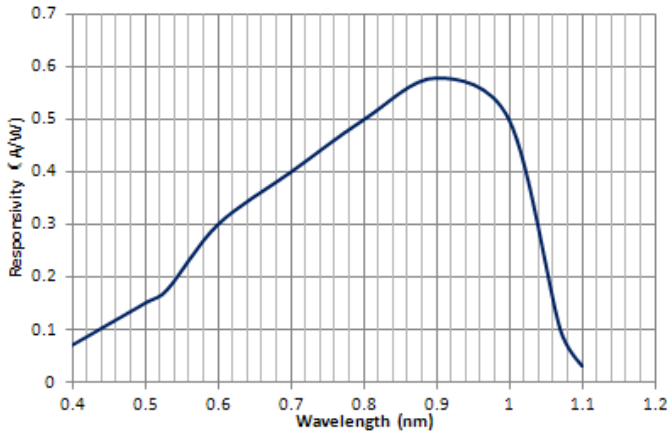


| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|-----------|---------------------------------------|-----------|------|------|------|
| Wavelength range | λ | | 400-1100 | | | nm |
| Active diameter (Single element) | A | | 0.24*1.68 | | | mm |
| Gap/ Separation (centre to centre) | | | 0.30 | | | mm |
| Pitch | | | 60 | | | um |
| Dark current | I_D | M=100 | | 0.5 | 20 | nA |
| Junction Capacitance | C | M=100, f=1MHz | | 29 | 50 | PF |
| Reverse breakdown voltage | V_{BR} | ID=10μA | 160 | | 200 | V |
| Operating voltage temperature coefficient | δ | Tc=-40~+85°C | 0.9 | | | V/°C |
| Bandwidth | BW | M=100@-3dB | | 300 | | MHz |
| Maximum multiplication gain | M_{max} | $\lambda=905m, \phi_e=1\mu w$ | 100 | | | |
| Reponsivity | Re | $\lambda=905nm, \phi_e=1\mu w, M=100$ | 45 | 55 | | A/W |
| Crosstalk | | | | | 5 | % |

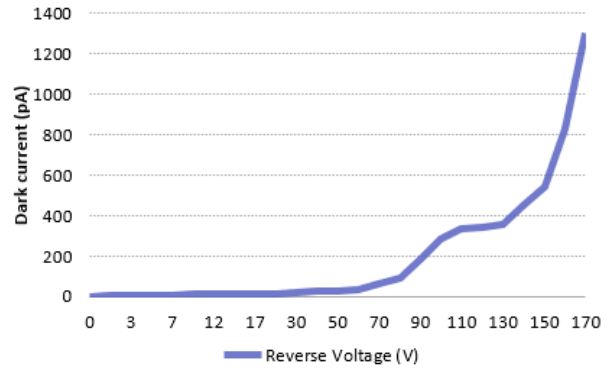
Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission.

Specifications are subject change without notice

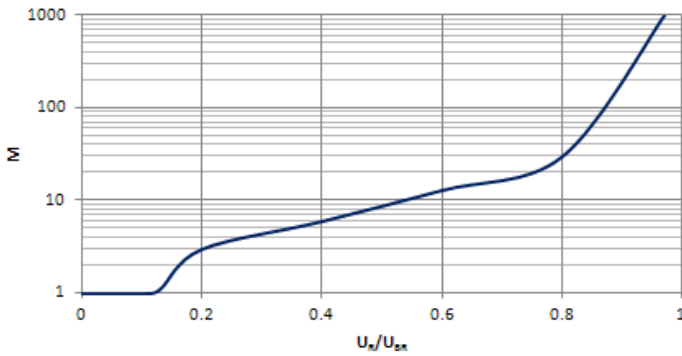
■ Responsivity vs. Wavelength at



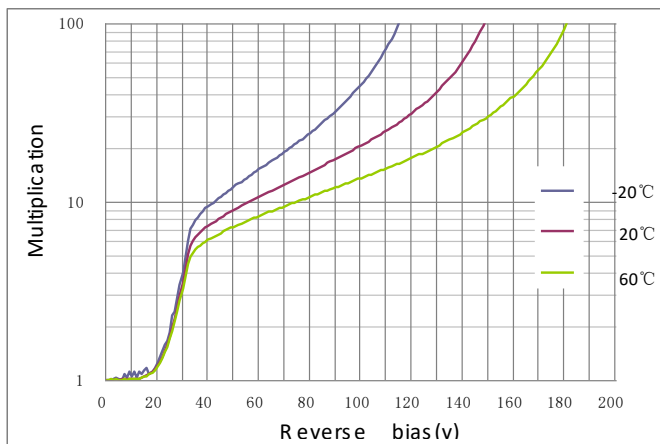
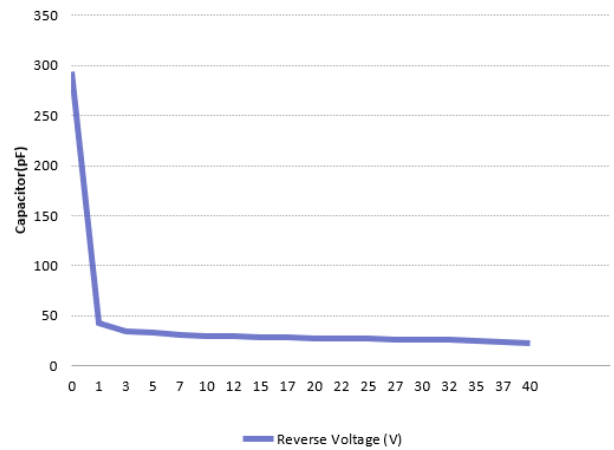
■ Dark current VS. U_R/U_{BR}



■ Gain vs. U_R/U_{BR}

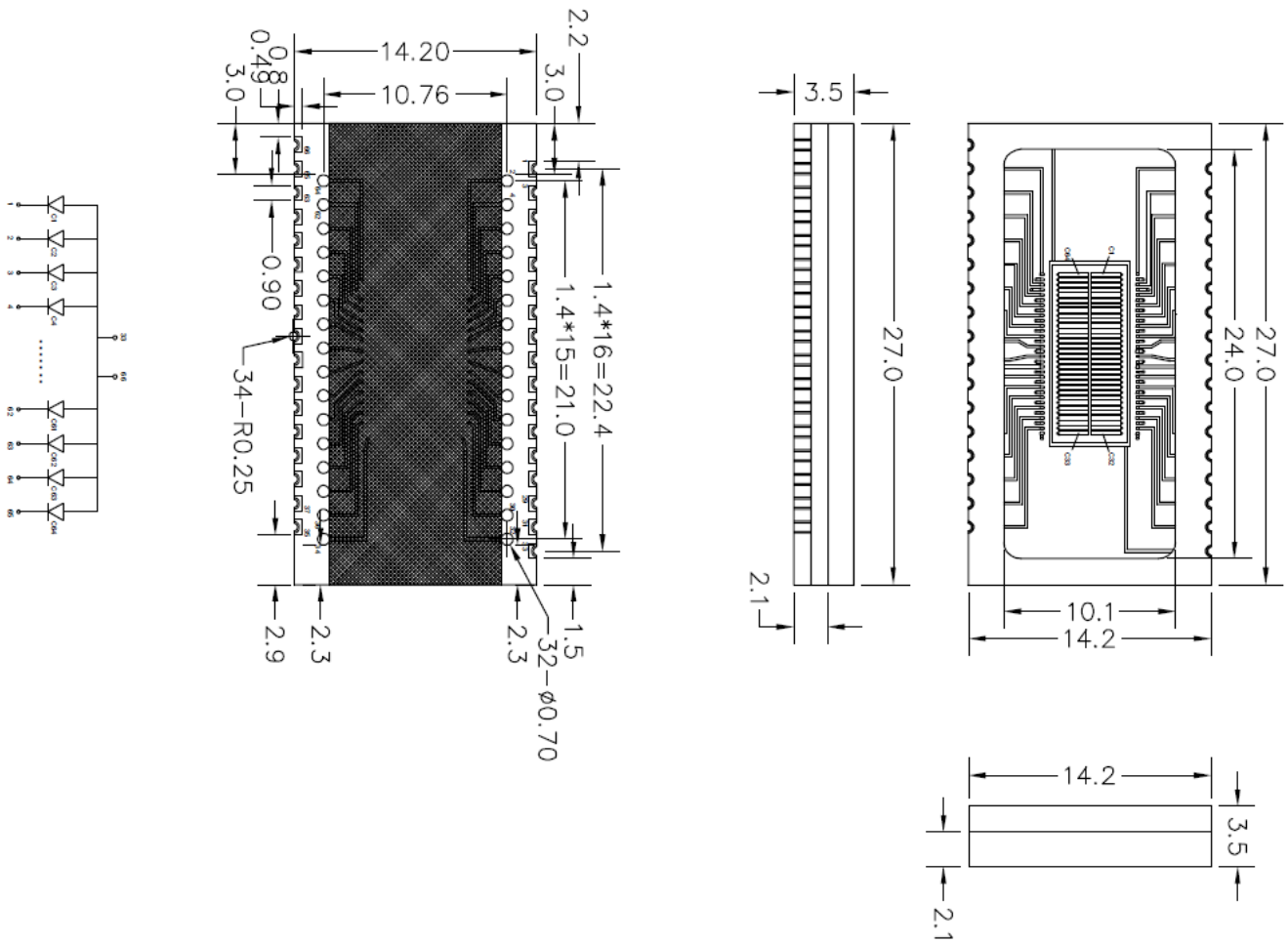


■ Capacitance vs. Operating voltage



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Dimensional outlines (unit: mm)



| PIN CONNECTION | | | | | | | | | | | | | |
|----------------|-----|----|-----|----|-----|----|-------|----|-----|----|-----|----|-------|
| 1 | C1 | 11 | C11 | 21 | C21 | 31 | C31 | 41 | C40 | 51 | C50 | 61 | C60 |
| 2 | C2 | 12 | C12 | 22 | C22 | 32 | C32 | 42 | C41 | 52 | C51 | 62 | C61 |
| 3 | C3 | 13 | C13 | 23 | C23 | 33 | Anode | 43 | C42 | 53 | C52 | 63 | C62 |
| 4 | C4 | 14 | C14 | 24 | C24 | 34 | C33 | 44 | C43 | 54 | C53 | 64 | C63 |
| 5 | C5 | 15 | C15 | 25 | C25 | 35 | C34 | 45 | C44 | 55 | C54 | 65 | C64 |
| 6 | C6 | 16 | C16 | 26 | C26 | 36 | C35 | 46 | C45 | 56 | C55 | 66 | Anode |
| 7 | C7 | 17 | C17 | 27 | C27 | 37 | C36 | 47 | C46 | 57 | C56 | | |
| 8 | C8 | 18 | C18 | 28 | C28 | 38 | C37 | 48 | C47 | 58 | C57 | | |
| 9 | C9 | 19 | C19 | 29 | C29 | 39 | C38 | 49 | C48 | 59 | C58 | | |
| 10 | C10 | 20 | C20 | 30 | C30 | 40 | C39 | 50 | C49 | 60 | C59 | | |

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