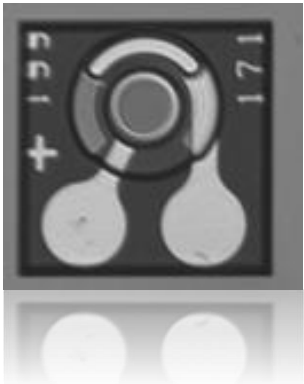


# 25 Gbps PIN Photodiode

## 1x1/4/12 chip

- GaAs PIN Photodiode
- 850 nm wavelength
- High speed modulation up to 28 Gbps
- Top side illumination
- 1x1, 1x4, 1x12 chips



### ELECTRO-OPTICAL CHARACTERISTICS

Chip temperature = 25°C unless otherwise stated

| PARAMETER            | SYMBOL           | UNITS | MIN | TYP  | MAX | TEST CONDITIONS                             |
|----------------------|------------------|-------|-----|------|-----|---------------------------------------------|
| Responsivity         | R                | A/W   | 0.5 | 0.6  | 0.7 | optical input 1 mW                          |
| Active area diameter | d <sub>act</sub> | µm    | 38  | 42   | 47  |                                             |
| Dark current I       | I <sub>dl</sub>  | nA    | 0.0 | -0.2 | 1.0 | U <sub>bias</sub> = -2V                     |
| Capacitance          | C                | fF    | 120 | 140  | 160 | U <sub>bias</sub> = -2V                     |
| Modulation bandwidth | f <sub>6dB</sub> | GHz   | 16  | 20   |     | 50 Ohm load, -6 dB, U <sub>bias</sub> = -2V |
| Wavelength range     | λ                | nm    | 840 |      | 860 |                                             |

### Absolute Maximum Ratings

|                            |             |
|----------------------------|-------------|
| Storage temperature        | -40...140°C |
| Operating temperature      | 0...85°C    |
| Continuous forward current | 10 mA       |
| Soldering temperature      | 330°C       |

**NOTICE:** Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.

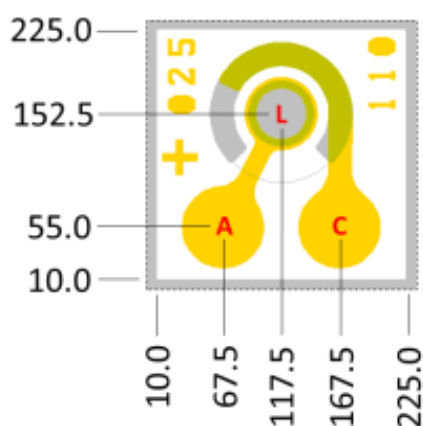


**ATTENTION:** Electrostatic Sensitive Devices  
Observe Precautions for Handling

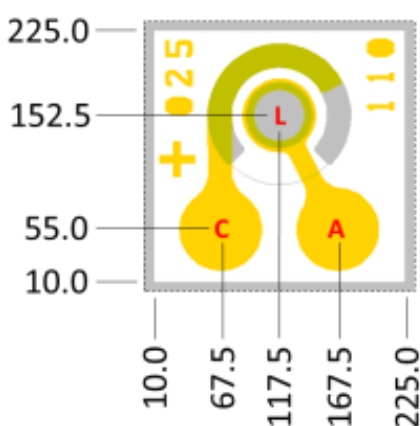
## Single Photodiode chip

|             |                                              |
|-------------|----------------------------------------------|
| Description | PD chip, single channel                      |
| Type        | ULMPIN-25-TT-N0101U                          |
| Mounting    | anode and cathode wire bonding on front side |
| Dimensions  | 235 $\mu\text{m}$ x 235 $\mu\text{m}$        |
| Thickness   | 150 $\mu\text{m}$                            |

ULMPIN-25-TT-N0101U\_AC



ULMPIN-25-TT-N0101U\_CA

Units:  $\mu\text{m}$ 

A = Anode pad  
 C = Cathode pad (NOT common cathode)  
 L = Light sensitive area

Bond pad diameter: 70  $\mu\text{m}$ 

## Photodiode line arrays

|             |                                       |                                        |
|-------------|---------------------------------------|----------------------------------------|
| Description | 1 x 4 PD line array                   | 1 x 12 PD line array                   |
| Type        | ULMPIN-25-TT-N0104U                   | ULMPIN-25-TT-N0112U                    |
| Wiring      | Electrically separated channels       | Electrically separated channels        |
| Dimensions  | 235 $\mu\text{m}$ x 985 $\mu\text{m}$ | 235 $\mu\text{m}$ x 2985 $\mu\text{m}$ |
| Thickness   | 150 $\mu\text{m}$                     | 150 $\mu\text{m}$                      |



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