

◆ **Introduction:**

S-118BGPD19-G is a front-side illuminated GaAs PIN chip with a mesa structure. This product has high responsivity, low dark current, and excellent reliability. It is ideally suited for low cost, high-speed data communication designs.

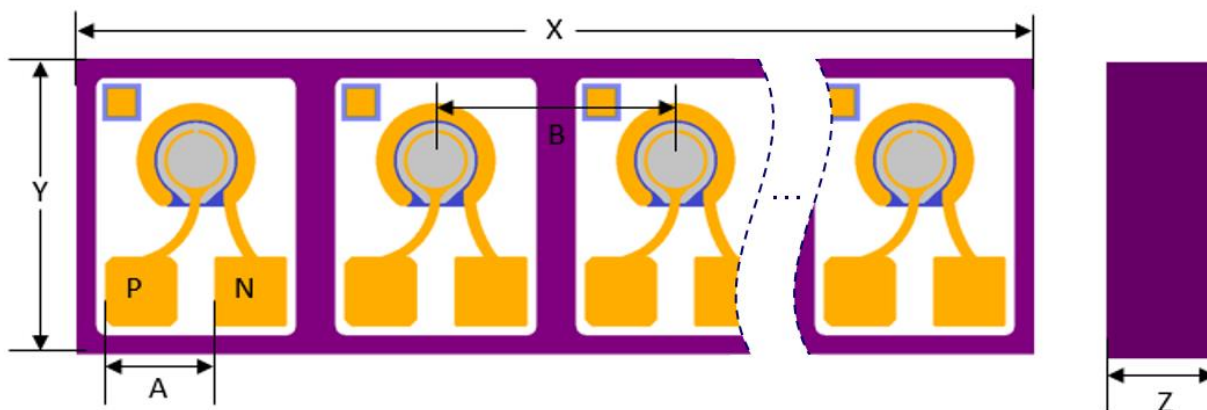
◆ **Key Features:**

- Optical aperture: 60μm
- Low capacitance
- Low dark current
- 100% testing and inspection
- RoHS compliant

◆ **Applications:**

- ROSAs for QSFP+12×10 Gb/s
- Multimode datacom and telecom

◆ **Physical Parameters:**



| Symbol | Die Dimension | | | | | Aperture D | Pad | |
|--------|---------------|-----|-----|-----|-----|---------------|-------|-------|
| | X | Y | Z | A | B | | P | N |
| Min | 975 | 295 | 135 | 110 | 245 | Φ55 | 70*70 | 70*70 |
| Typ | 1000 | 320 | 150 | 115 | 250 | Φ60 | 75*75 | 75*75 |
| Max | 1025 | 345 | 165 | 120 | 255 | Φ65 | 80*80 | 80*80 |
| Unit | μm | μm | μm | μm | μm | μm | μm*μm | μm*μm |

◆ **Absolute Maximum Rating:**

| Parameter | Symbol | Rating | | Unit |
|-----------------------|----------|--------|-----|------|
| | | Min | Max | |
| Operation Voltage | V_{OP} | | 10 | V |
| Forward Current | I_F | | 10 | mA |
| Reverse Current | I_R | | 5 | mA |
| Operating Temperature | T_{OP} | -40 | 85 | °C |
| Storage Temperature | T_C | -45 | 125 | °C |

◆ **Specifications (T=25°C) :**

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Units |
|------------------|-----------|-----------------------------|-----|------|------|-------|
| Wavelength Range | λ | | 760 | 850 | 860 | nm |
| Dark Current | I_D | $V_R=3V$ | | 0.1 | 5 | nA |
| Responsivity | R_e | $V_R=3V$ $\lambda=850nm$ | 0.5 | 0.6 | | A/W |
| Capacitance | C | $V_R=3V$ | | 0.15 | 0.20 | pF |
| -3dB Bandwidth | BW | $V_R=3V$ $\lambda=850nm$ | 8 | | | GHz |