



**Pigtail Type
GPON BOSA
For Class B+ ONU Transceiver**



Applications:

- For Data Communications
- For Telecommunications
- GPON

Features:

- Compliant with ITU-T G.984.2 or 984.5
- 1310nm MQW-DFB LD
- APD-TIA Receiver
- High Sensitivity
- Operation Temperature From -40°C to 85°C
- RoHS Compliant

Order Information:

| Type | Model Number | Data Rate | TX / RX Source | Temp |
|------|------------------|-------------------------------|---------------------------------|------------|
| BOSA | G-D3AP5-XX-YY-SA | TX: 1.25 Gbps RX: 2.50Gbps | 1310nm DFB-LD 1490nm APD-TIA | -40~+85 °C |

| G | D3 | AP5 | X | | X | | YY | | SA |
|------|-----------------------------------|------------------------------------|----------------|--------|----------------|--------|-----------------------------|--|---|
| | | | pin assignment | | | | Fiber Length (mm) ± (20mm): | | |
| GPON | Tx LD: D3= 1310nm DFB LD | Rx PD: AP5 = 5pin APD-TIA | Tx (D=degree): | | Rx (D=degree): | | 91=100mm 95=200mm | | Connector Type of fiber pigtail: SA=SC/APC |
| | | | 1=0D | 5=180D | 1=0D | 5=180D | 92=120mm 96=600mm | | |
| | | | 2=45D | 6=225D | 2=45D | 6=225D | 93=155mm 97= | | |
| | | | 3=90D | 7=270D | 3=90D | 7=270D | 94=186mm Specified | | |
| | | | 4=135D | 8=315D | 4=135D | 8=315D | | | |

Fiber Pigtail Type , SMF 9/125μm; Cable Type=0.9mmφ, LSZH sheath; Fiber Length=YY±20mm

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Max. | Units |
|-------------------------------------|------------------|------|-------|--------|
| Storage Temperature | T _{STG} | -40 | +85 | °C |
| Operating Case Temperature | T _{OPR} | -40 | +85 | °C |
| Reverse Voltage(LD) | V _{RL} | --- | 2 | V |
| Forward Current (LD) | I _{FL} | --- | 150 | mA |
| Reverse Voltage(MPD) | V _{RD} | --- | 20 | V |
| Forward Current (MPD) | I _{FD} | --- | 2 | mA |
| Photodiode Forward Current(PD) | I _{FPD} | --- | 0.5 | mA |
| Lead Soldering (Temperature)/(Time) | --- | --- | 350/5 | °C/Sec |



Transmitter Optical / Electrical Characteristics (@ T=25°C, unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Units | Ref |
|-----------------------------|------------------|------------|--------|------------|-------|--|
| Data Rate | | | 1.244 | | Gbps | |
| Light Source | | | DFB LD | | | |
| Output Optical Power | Pf | 1.5 1.0 | - | 3.5 4.5 | mW | CW, Iop=Ith+20mA, Tc=25°C CW, Iop=Ith+20mA, Tc=85°C |
| Threshold Current | Ith | | 10 | 15 | mA | at Tc=25°C |
| | | -- | | 45 | | at Tc=85°C |
| Slope Efficiency | η | 0.088 | | 0.200 | W/A | at Tc=25°C, Iop=Ith+20mA |
| | | 0.050 | | 0.250 | | at Tc=85°C, Iop=Ith+20mA |
| Rise/Fall Time | Tr/TF | | | 0.15 | ns | 20% to 80% |
| Center Wavelength | λc | 1298 | 1308 | 1318 | nm | CW, Pf= Ith+20mA, Tc=25°C |
| | | 1290 | | 1330 | | CW, Pf= Ith+20mA, Tc=-40~85°C |
| Spectrum Width (-20dB) | Δλ | -- | 0.32 | 0.75 | nm | CW, Pf= Ith+20mA, Tc=-40~85°C |
| Operating Voltage | Vop | | 1.14 | 1.40 | V | CW, Pf=2.5mW |
| Side-mode Suppression Ratio | SMSR | 30 | 43 | | | CW, Pf=Ith+20mA, Tc=-40~85°C |
| Tracking Error | TE | -1.2 | | 1.2 | mA | CW, Tc=-40~85°C |
| Monitor Current | I _{mon} | 0.10 | -- | 0.72 | mA | V _{RD} =5V, Iop=Ith+20mA |
| Monitor Dark Current | I _d | -- | -- | 100 | nA | V _{RD} =5V |

Receiver Optical / Electrical Characteristic (CW@ T=25°C, unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Units | Ref |
|-----------------------------------|------------------|------|--------------|-------|-------|--|
| Data Rate | | | 2.488 | | Gbps | |
| Photo Diode | | | APD with TIA | | | |
| Receiving Wavelength | λ | 1480 | 1490 | 1500 | nm | |
| Sensitivity | P _{min} | | -29.5 | -28.5 | dBm | PRBS ²³ -1, BER=10 ⁻¹⁰ , 2.5Gbps, ER=9dB, λ=1490nm, Vop=Vbr-3V |
| Saturated power | P _{max} | -7 | | | dBm | |
| Supply Current | I _{cc} | | 50 | 70 | mA | |
| Operating Voltage vs. Sensitivity | Vop | 38 | 41 | 47 | V | I _d =10uA, @ Typ. P _{min} |
| Optical Return Loss | ORL | | | -20 | dB | λ=1480~1500nm |
| Optical Crosstalk | X _{opt} | | -45 | -40 | dB | λ=1290~1330nm |

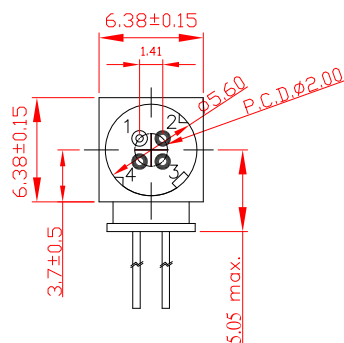


Outline Dimensions [mm±0.05mm] & Pin-out:

BOSA With Pigtail Fiber

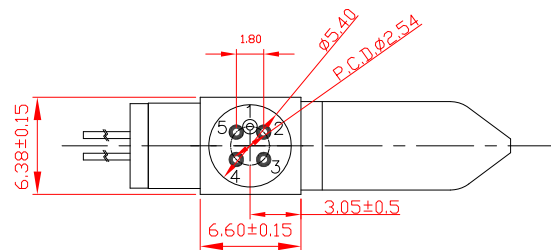


Transmitter



| | |
|---|------------------------------|
| 1 | GND (Case) |
| 2 | Laser Cathode |
| 3 | Monitor Anode |
| 4 | Laser Anode, Monitor Cathode |

Receiver



| | |
|---|----------------|
| 1 | GND (Case) |
| 2 | D- |
| 3 | Current Source |
| 4 | Vapd |
| 5 | Vcc |
| 6 | (option) D+ |

- ❖ For more information, please e-mail sales@wamin.com.tw
- ❖ The information and datasheets above are subject to change without prior notice.

