

## XQX5070 QSFP28 100G-CWDM4

*2 km Reach Optimized for Data Center*

### KEY FEATURES

- 100G-CWDM4
- Typical power of < 3.5W
- Reach: 2 km via SMF
- CWDM wavelengths 1310nm range
- SMF LC duplex connector
- 0-70°C transceiver operating case temperature
- Hot pluggable
- 40G-LR4 compatible

The pluggable **QSFP28 100G-CWDM4** transceiver is the latest addition to **Kaiam's** product portfolio supporting diverse data rates with reach up to 10km. The target applications for this transceiver are 100G-CWDM4, high-port-count 100G systems, and client-side 100G interfaces.

This product is built on the **LightScale®2** platform.

Leveraging its novel hybrid integration technology, **Kaiam** is able to design and produce high-speed optical modules for high bandwidth applications such as router and data center interconnect. All of **Kaiam's** products allow for superior performance at 40Gb/s and beyond with duplex single mode fiber.



**OPTICAL TRANSMITTER PERFORMANCE**

| PARAMETER                                |     | SYMBOL      | MIN                       | MAX    | UNITS |
|--|-----|-------------|---------------------------|--------|-------|
| Channel Wavelength                       | Ch0 | $\lambda_0$ | 1264.5                    | 1277.5 | nm    |
|  | Ch1 | $\lambda_1$ | 1284.5                    | 1297.5 |       |
|  | Ch2 | $\lambda_2$ | 1304.5                    | 1317.5 |       |
|  | Ch3 | $\lambda_3$ | 1324.5                    | 1337.5 |       |
| Bit Rate per Channel                     |     | B           | 25.78125±100ppm           |        | Gb/s  |
| Side-Mode Suppression Ratio              |     | SMSR        | 30                        |        | dB    |
| Average launch power, each lane          |     |             | -6.5                      | 2.5    | dBm   |
| Optical Modulation Amplitude (each lane) |     | OMA         | -4.0                      | 2.5    | dBm   |
| Launch power in OMA minus TDP, each lane |     | OMA-TDP     | -5.0                      |        | dBm   |
| Transmission & dispersion penalty        |     | TDP         |                           | 3.0    | dB    |
| RIN <sub>20 OMA</sub>                    |     |             |                           | -130   | dB/Hz |
| Transmitter Reflectance                  |     |             |                           | -12    | dB    |
| Extinction Ratio                         |     | ER          | 3.5                       |        | dB    |
| Transmitter Optical Mask                 |     | MM          | Compliant with 100G-CWDM4 |        |       |

**OPTICAL RECEIVER PERFORMANCE**

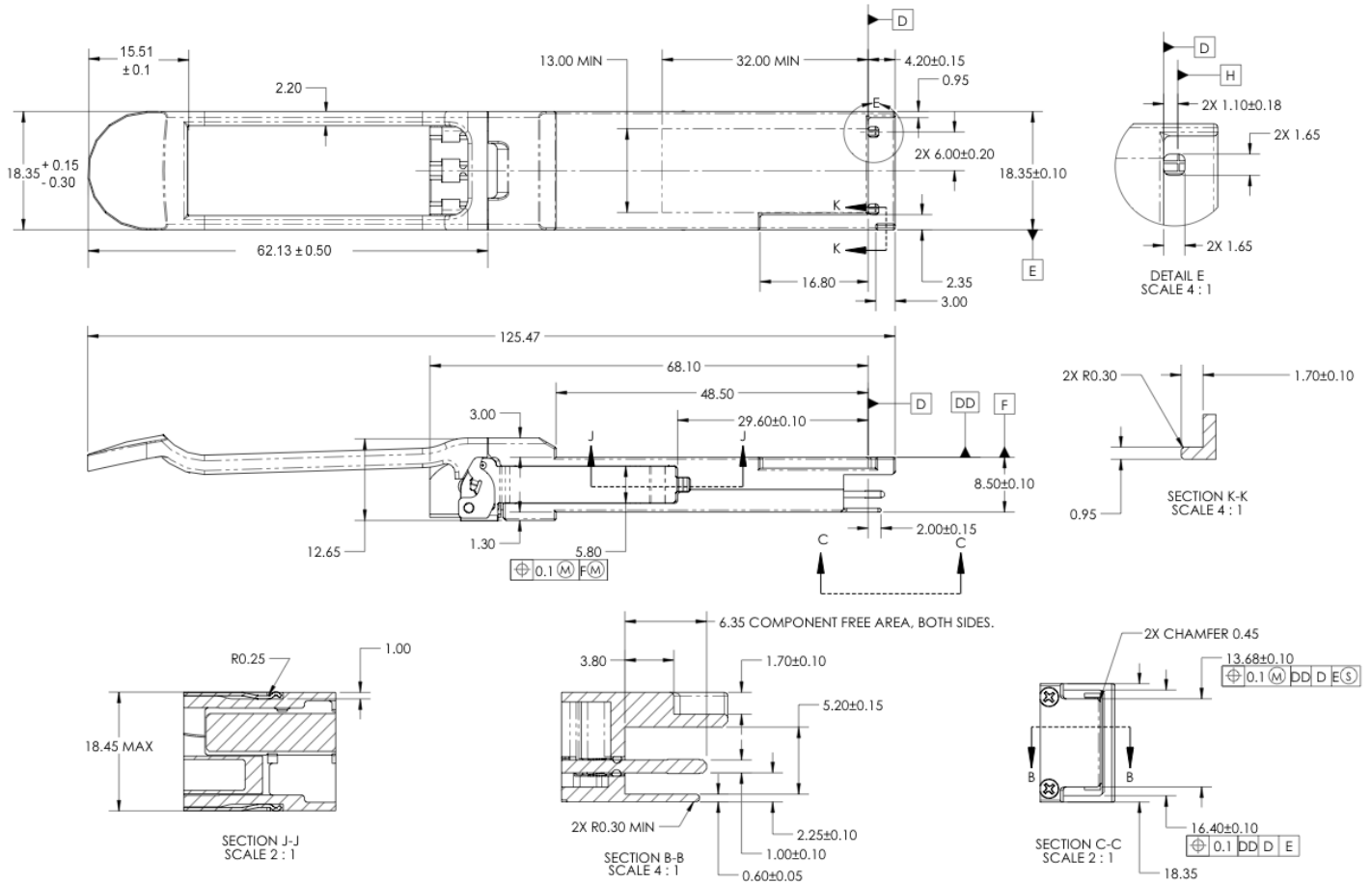
| PARAMETER                               |     | SYMBOL                | MIN    | TYP  | MAX    | UNITS |
|---|-----|-----------------------|--------|------|--------|-------|
| Channel Wavelength                      | Ch0 | $\lambda_0$           | 1264.5 | 1271 | 1277.5 | nm    |
|   | Ch1 | $\lambda_1$           | 1284.5 | 1291 | 1297.5 |       |
|   | Ch2 | $\lambda_2$           | 1304.5 | 1311 | 1317.5 |       |
|   | Ch3 | $\lambda_3$           | 1324.5 | 1331 | 1337.5 |       |
| Bit Rate per Channel                    |     | B                     | 25.78  |      | 27.95  | Gb/s  |
| Unstressed Sensitivity (OMA)            |     | OMA <sub>in</sub>     |        |      | -10    | dBm   |
| Stressed Sensitivity (OMA)              |     | OMA <sub>in,str</sub> |        |      | -7.3   | dBm   |
| Receiver Reflectance                    |     | ORL                   |        |      | -26    | dB    |
| Vertical eye closure penalty, each lane |     | VECP                  |        |      | 1.95   | dB    |
| Stressed eye J2 Jitter, each lane       |     | J2                    |        |      | 0.3    | UI    |
| Stressed eye J9 Jitter, each lane       |     | J9                    |        |      | 0.5    | UI    |

**NOMINAL OPERATING CONDITIONS**

| PARAMETER                  | MIN   | TYP | MAX   | UNITS | NOTES  |
|----------------------------|-------|-----|-------|-------|--------|
| Operating Case Temperature | 0     |     | +70   | °C    |        |
| Supply Voltage             | 3.135 | 3.3 | 3.465 | V     | +/- 5% |
| IIC Clock Frequency        |       | 100 | 400   | kHz   |        |
| IIC Clock Stretching       |       |     | 500   | μs    |        |
| IIC Data Hold Time         |       |     | 900   | ns    |        |

## QSFP28 MODULE MECHANICAL OUTLINE

(all dimensions in mm)



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