

IRD-SFP-1G-SM-20AB

Par de Módulos SFP, 1Gbps, Fibra Monomodo, Conector LC Simplex, Lado A e B, 20km

CARACTERÍSTICAS

- Taxa de transmissão de até 1.25Gbps
- Lado A: transmissor FP 1310nm / receptor PIN 1550nm
- Lado B: transmissor DFB 1550nm / receptor PIN 1310nm
- Alcance de até 20km com fibra monomodo (9/125µm)
- Interface óptica com conector LC simplex
- Hot-pluggable (conexão a quente)
- Carcaça metálica com excelente desempenho EMI
- Compatível com RoHS6 (sem chumbo)
- Monitoramento digital (DDM) integrado
- Faixas de temperatura operacionais: Comercial (-5°C a +70°C), Estendida (-20°C a +80°C), Industrial (-40°C a +85°C)
- Compatível com SFP MSA, SFF-8472 e IEEE 802.3ah (2004)



SFP

1Gbps

LC Simplex

20km



INTRODUÇÃO

O IRD-SFP-1G-SM-10AB é um conjunto de transceptores ópticos SFP bidirecionais (BiDi), simplex, compatíveis com aplicações Gigabit Ethernet e Fiber Channel em redes de longa distância com fibra monomodo (SMF). Utilizando um único conector LC simplex, o par é formado por dois módulos: um com transmissor em 1310nm e receptor em 1550nm (lado A) e outro com transmissor em 1550nm e receptor em 1310nm (lado B). Ambos são hot-pluggable, suportam até 20km de alcance e oferecem funções de monitoramento digital (DDM), sendo ideais para interfaces switch-to-switch, roteadores e sistemas ópticos industriais.

Projetado conforme os padrões SFP MSA e SFF-8472, o IRD-SFP-1G-SM-10AB assegura compatibilidade e confiabilidade para implantações exigentes. Com opções para uso em ambientes comerciais, estendidos e industriais, oferece flexibilidade para diferentes cenários de temperatura.

ESPECIFICAÇÕES TÉCNICAS

Ópticas

- Comprimento de onda (Tx):
 - Lado A: 1310nm (FP)
 - Lado B: 1550nm (DFB)
- Comprimento de onda (Rx):
 - Lado A: 1550nm
 - Lado B: 1310nm
- Largura espectral:
 - FP: 3nm RMS
 - DFB: 1nm (-20dB)
- Potência óptica média de saída: -9 a -3 dBm
- Potência com laser desligado: -45 dBm
- Sensibilidade do receptor: até -23 dBm
- Sobrecarga óptica: 0 dBm
- Extinction Ratio: 9 dB
- SMSR: 30 dB
- RIN: -128 dB/Hz
- Tempo de subida/queda óptico: 260 ps
- Tolerância ao retorno óptico: até 12 dB
- LOS Assert: -35 dBm
- LOS Deassert: -24 dBm
- Histerese LOS: 0.5 a 5 dB
- Perda de Inserção e Perda de Retorno:
 - Perda de Inserção: 0,2 dB
 - Perda de Retorno: 50 dB

Conformidade com Segurança de Laser

- Produto laser de classe 1, em conformidade com EN 60825-1

Elétricas

- Tensão de alimentação: 3.13 a 3.46V
- Corrente de alimentação: até 300 mA
- Impedância de entrada diferencial: 90-110 Ω

- Swing de entrada: 250-1000 mVpp
- Swing de saída: 300-600 mVpp
- TX Disable: VCC - 1.3V a VCC
- TX Enable: Vee a Vee + 0.8V

Características Ambientais

- Temperatura de operação:
 - Comercial: -5°C a +70°C
 - Estendida: -20°C a +80°C
 - Industrial: -40°C a +85°C
- Temperatura de armazenamento: -40°C a +85°C
- Umidade relativa: 0% a 85% (sem condensação)

Diagnóstico Digital (DDM)

- Temperatura: ±3°C
- Potência TX/RX: ±3 dB
- Tensão: ±3%
- Corrente de polarização: ±10%
- Interface I²C compatível com SFF-8472

Padrões e Compatibilidade

- SFP MSA
- SFF-8472 (Rev. 10.2)
- IEEE 802.3ah (2004)

Certificações Ambientais e Regulatórias

- EMC: EN 55032, EN 55035, IEC 61000-3-2/3
- FCC Part 15
- RoHS: Conforme às diretivas 2011/65/EU, (EU) 2015/863, (EU) 2017/2102

Aplicações

- Gigabit Ethernet
- Fiber Channel
- Interligação entre switches
- Interface de backplane comutado
- Conexões entre roteadores e servidores
- Sistemas de transmissão óptica diversos

Room 303, Building 1, No.316, Renzhou Road,
Shatian Town, Dongguan City, Guangdong Province
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CERTIFICATE OF CONFORMITY

No: JAT25040302947EC-1

Applicant : IRD Produtos de Informática Ltda
Address : RUA MARIA LOPES BORBA, 474, NAVEGANTES-SC, 88370340,
BRAZIL
Manufacturer : IRD Produtos de Informática Ltda
Address : RUA MARIA LOPES BORBA, 474, NAVEGANTES-SC, 88370340,
BRAZIL
EUT : Commercial and Industrial Grade SFP Modules (Optical Modules)
Trade Mark : IRD.Net
M/N : See model list

The submitted sample of the above equipment has been tested and found to comply with the following European Directive:

Electromagnetic Compatibility Directive 2014/30/EU

The standard(s) used for showing compliance with the essential requirements:

Applicable Standard(s)	Test Report(s) Number
EN 55032:2015+A11:2020 EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A2:2024 EN 61000-3-3:2013+A2:2021+AC:2022-01	JAT25040302947ER-1

This certificate is part of the full test report(s) and should be read in conjunction with it. This certificate is based on an evaluation of one sample of above mentioned product. It does not imply assessment of the production of the product. Without the written approval of Dongguan Jun'an Testing & Certification Co., Ltd., this certificate is not permitted to be reproduced, except in full. It is not permitted to use the test lab's logo. The CE marking may only be used if all the relevant and effective European Directive are applicable.



(Manager)
March 31, 2025



Model list:

The IRD-SFP-T2.5G, IRD-SFP-T1G, IRD-SFP-T10G, IRD-SFP-X-Y-ZW and IRD-SFP-X-Y-Z-IW model families follow a naming convention where each part of the code corresponds to a specific characteristic of the module. Below is a detailed explanation of each field:

1. **X (Speed)**

- Possible values: *100M*, *622M*, *1G*, *2.5G*, *10G*, *16G*, *25G*, *40G*, *50G*, or *100G*.
- Indicates the supported data rate, covering anything from Fast Ethernet (100 Mbps) up to 100 Gbps.

2. **Y (Fiber Type)**

- Possible values: *SM* (singlemode) or *MUM* (multimode).
- Specifies the type of fiber optic cable for which the transceiver is designed.

3. **Z (Maximum Distance)**

- Possible values: *0.1*, *0.3*, *0.5*, *2*, *10*, *20*, *40*, *60*, *80*, *100*, *120*, and *160*.
- Typically expressed in kilometers (km), it refers to the approximate reach of the module according to its optical specification.

4. **Temperature/Operating Grade**

- After the value **Z**, the presence of **I** indicates an *industrial-grade* product (extended operating temperature range), whereas the absence of **I** (NULL) means it is *commercial-grade*.
- Examples:
 - **IRD-SFP-X-Y-ZW** → “Commercial-grade” version
 - **IRD-SFP-X-Y-Z-IW** → “Industrial-grade” version

5. **W (Additional Type)**

- Possible values: *NULL*, *A*, *B*, *C*, *D*, *E*, *F*, *G*, or *H*.
- This suffix provides additional information about the product variant. It may indicate extra features, extended compatibility, special applications, and so on.

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CERTIFICATE OF CONFORMITY

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RoHS Directive 2011/65/EU & (EU) 2015/863 & (EU) 2017/2102

The standard(s) used for showing compliance with the essential requirements:

Applicable Standard(s)	Test Report(s) Number
IEC 62321-1:2013, IEC 62321-2:2013 IEC 62321-3-1:2013, IEC 62321-3-2:2020 IEC 62321-4:2013, IEC 62321-5:2013 IEC 62321-6:2015, IEC 62321-7-1: 2015 IEC 62321-7-2:2017, IEC 62321-8:2017	JAT25040302947RR-1

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RoHS



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SDoC's Compliance Information Statement

No: JAT25040302947FC-1

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The submitted sample of the above equipment has been tested and found to comply with the following requirement of 47 CFR of PART 15.

The assessment of compliance of the product with the requirements relating to FCC rules was based on the following standards and procedure:

Applicable Standard(s)	Test Report(s) Number
FCC Part 15, Subpart B:2017 ANSI C63.4:2014	JAT25040302947FR-1

This verification is part of the full test report(s) and should be read in conjunction with it. This verification is based on an evaluation of one sample of above mentioned product. It does not imply assessment of the production of the product. Without the written approval of Dongguan Jun'an Testing & Certification Co., Ltd., this verification is not permitted to be reproduced, except in full. It is not permitted to use the test lab's logo.



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