IRD-SFP-10G-SM-20

Módulo SFP de 10Gbps, Fibra Monomodo, Conector Duplex LC, Distância 20km

CARACTERÍSTICAS

- Suporta taxas de dados de até 10,6 Gb/s
- Laser DFB de 1310 nm e fotodetector PIN
- Transmissão de até 20 km em fibra monomodo (SMF) 9/125 µm
- Interface óptica LC duplex
- Compatível com 10GBASE-LR/LW (IEEE 802.3ae) e 10G Fibre Channel
- Hot-pluggable em conformidade com SFP+ MSA
- Funções de diagnóstico digital (DDM) via I²C conforme SFF-8472
- Carcaça metálica para excelente desempenho EMI
- Conformidade RoHS6 (sem chumbo)
- Temperaturas operacionais: Comercial (-5°C a +70°C), Estendida (-20°C a +80°C) e Industrial (-40°C a +85°C)

SFP+ | 10Gbps | LC Duplex | 10km

CE FC RoHS COMPLIANT

INTRODUÇÃO

O IRD-SFP-10G-SM-20 é um transceptor óptico de formato SFP+, ideal para aplicações de rede de alto desempenho que utilizam fibra monomodo. Com alcance de até 20 km e taxas de transmissão de até 10,6 Gb/s, este módulo suporta padrões como 10GBASE-LR/LW, 10G Fibre Channel e 10G SONET.

Utiliza laser DFB de 1310 nm, conector LC duplex, possui funções de diagnóstico digital (DDM) e é compatível com as normas SFP+ MSA e SFF-8472. A carcaça metálica proporciona excelente desempenho contra interferência eletromagnética (EMI), sendo ideal para data centers e redes corporativas.

ESPECIFICAÇÕES TÉCNICAS

Ópticas

- Comprimento de onda (TX): 1260 a 1355 nm
- Comprimento de onda (RX): 1260 a 1620 nm
- Largura espectral (-20 dB): 1 nm
- SMSR: 30 dB
- Potência média de saída: -5,0 a +1 dBm
- Potência com laser desligado: -30 dBm
- Extinction Ratio: 3,5 dB
- RIN: -128 dB/Hz
- Tempo de subida/queda óptico: 50 ps
- Sensibilidade RX: até -14,4 dBm
- Overload RX: até +0,5 dBm
- LOS Assert: -30 dBm
- LOS Deassert: -16 dBm
- Histerese de LOS: 0,5 a 5 dB
- Reflexão óptica máxima: -12 dB
- Potência de dano no receptor: até +1,5 dBm

Elétricas

- Tensão de alimentação (VCC): 3,13 a 3,46 V
- Corrente de alimentação: até 300 mA
- Impedância diferencial de entrada: 90–110 Ω
- Amplitude de entrada: 180–700 mVpp
- Amplitude de saída: 300–850 mVpp
- TX Disable: VCC – 1,3 V até VCC
- TX Enable: Vee até Vee + 0,8 V
- LOS Normal: Vee até Vee + 0,5 V
- LOS Fault: VCC – 0,5 V até VCC_host

Temporização

- TX Disable: 100 µs
- TX Enable: 2 ms
- Inicialização: 300 ms
- RX LOS Delay: 100 µs
- TX Fault Assert: 1 ms
- TX Fault Reset: 10 µs

Diagnóstico Digital (DDM)

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

Limites Absolutos

- Tensão máxima: até 3,6 V
- Temperatura de armazenamento: -40 a +85°C
- Umidade relativa: 0 a 85% (sem condensação)

Normas e Padrões

- IEEE 802.3ae (10GBASE-LR/LW)
- 10G Fibre Channel (1200-SM-LL-L)
- SFP+ MSA
- SFF-8472

Aplicações

- Enlaces de backbone 10G Ethernet (10GBASE-LR/LW)
- Conexões 10G Fibre Channel
- Interligação de switches, roteadores e servidores
- Data centers, operadoras e redes industriais

Room 303, Building 1, No.316, Renzhou Road,
Shatian Town, Dongguan City, Guangdong Province
www.junantest.com

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.

CE

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(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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SDoC's Compliance Information Statement

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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 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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(Manager)

March 31, 2025

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Trade Mark	:	IRD.Net
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The submitted sample of the above equipment has been tested and found to comply with the following European Directive:

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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