10GBASE-SR XFP Modul MM LC 300m Datenreichweite (850nm)Cisco kompatibel

\*\*GBIC-, SFP-, XFP-, XENPAK-Transceiver

Die neuen optischen Transceiver von tde, darunter GBIC-, SFP-, XFP- und XENPAK-Transceiver zeichnen sich durch hohe Qualität, höchste Ausfallsicherheit und eine sehr einfache Installation aus – und das zu einem äußerst attraktiven Preis-Leistungsverhältnis. Internet Video, HDTV, Voice over IP und die ständig wachsenden Volumina von Unternehmensdaten erfordern eine schnellere Datenübertragung und größere Bandbreiten. Optische Transceiver kombinieren Sender und Empfänger in einer optischen Komponente.

\*\*XFP Module

\*\*TECHNISCHE\_DATEN

Features
• Vollständig konform zu XFP MSA Rev.4.5
• Unterstützung von IEEE 802.3ae 10GBASE-SR bei 10.3125Gbit/s
• Fügsamkeit zum Faser-Kanal
  1200-M5-SN-l, 1200-M5E-SN-l,
  1200-M6-SN-l bei 10.51875Gbit/s
•Übertragungsentfernung bis
  300m mit OM3 MMF
  82m mit OM2 MMF
  33m mit OM1 MMF
• Schwachstromverbrauch 1.5W (typ.)
• Breiter Betriebstemperaturbereich: Industrie: -40°C bis +85°C
• Laser Klasse 1M konform
• Vertikaler aussendender Kavitäts Oberflächen Laser bei 850nm (VCSEL)
• LC Duplex Stecker
• XFI loopback Unterstützung
• Lead free und RoHS konform
• Exzelllente EMI Performance
• Hohe Zuverlässigkeit

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| Feature | Standard | Performance |
| Electrostatic Discharge (ESD) to the Electrical Pins | MIL-STD-883G Method 3015.7 | Class 1C (>1000 V) |
| Electrostatic Discharge to the enclosure | EN 55024:1998+A1+A2 IEC-61000-4-2 GR-1089-CORE | Compatible with standards |
| Electromagnetic Interference (EMI) | FCC Part 15 Class B EN55022:2006 CISPR 22B :2006 VCCI Class B | Compatible with standards Noise frequency range: 30 MHz to 6 GHz. Good system EMI design practice required to achieve Class B margins. System margins are dependent on customer host board and chassis design. |
| Immunity | EN 55024:1998+A1+A2 IEC 61000-4-3 | Compatible with standards. 1kHz sine-wave, 80% AM, from 80 MHz to 1 GHz. No effect on transmitter/receiver performance is detectable between these limits. |
| Laser Eye Safety | FDA 21CFR 1040.10 and 1040.11 EN (IEC) 60825-1:2007 EN (IEC) 60825-2:2004+A1 | CDRH compliant and Class I laser product. TüV Certificate No. 50135086 |
| Component Recognition | UL and CUL EN60950-1:2006 | UL file E317337 TüV Certificate No. 50135086 (CB scheme ) |

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| Rating | Conditions | Symbol | Min. | Max. | Unit |
| Storage Ambient Temperature Range |   |   | -40 | +85 | °C |
| Powered case Temperature Range | XFP-10G-SR | TA | -40 | +85 | °C |
| Operating Relative Humidity |   | RH | 8 | 80 | % |
| Supply Voltage Range at 5.0V |   | Vcc5 | 0.5 | 6.0 | V |
| Supply Voltage Range at 3.3V |   | Vcc3 | 0.5 | 3.6 | V |
| Open Drain VCC level |   | VOD |   | 4.0 | V |
| Static Discharge Voltage on XFI High | HBM human body model per JEDEC JESD22-A114-B |   |   | 500 | V |
| Static Discharge Voltage excluding XFI High Speed Pins | HBM human body model |   |   | 2,000 | V |
| Static Discharge Voltage on XFP Module | EN61000-4-2 Criterion B: Air Discharge Direct Contact discharge |   |   | 15,000 8,000 | V V |

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| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Units |
| Operating Case Temperature Range | XFP-10G-SR-AS | TA | -40 |   | +85 | °C |
| Transceiver total Power Consumption |   | PTOT |   | 1.5 | 2.3 | W |
| Power Supply Voltage at 5.0V |   | Vcc5 | 4.75 | 5.00 | 5.25 | V |
| Power Supply Voltage at 3.3V |   | Vcc3 | 3.135 | 3.300 | 3.465 | V |
| Supply Current | at Vcc5 | Ivcc5 |   | 50 | 100 | mA |
| Supply Current | at Vcc3 | Ivcc3 |   | 325 | 500 | mA |

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| Parameter | Conditions | Symbol | Min. | Max. | Units |
| Baud Rate nominal |   |   | 9.95 | 10.71 | Gbd |
| Baud Rate Tolerance |   |   | -100 | +100 | ppm |

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| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Units |
| Single Ended Output Impedance |   | ZSE | 40 | 50 | 60 | Ω |
| Differential Output Impedance |   | ZOD | 80 | 100 | 120 | Ω |

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| Parameter | Conditions | Symbol | Min. | Max. | Units |
| Differential Output Amplitude |   | VSOPP | 340 | 850 | mV |
| Output Common Mode |   | VCM | 0 | 3.6 | V |
| Transition Time Low to High |   | tr | 24 |   | ps |
| Transition Time Low to Low |   | tf | 24 |   | ps |
| Differential Output Return Loss | 0.05—0.1GHz 0.1—5.5GHz 5.5—12GHz |   | 20 8 See 1) |   | dB dB dB |
| Common Mode Output Return Loss 2 ) |   | SCC 22 | 3 |   | dB |
| Total Peak-to-peak Jitter |   | Dj |   | 0.34 | UI |
| Output AC Common Mode Voltage |   |   |   | 15 | mV (RMS) |

1) SDD22(dB)=8-20.66 log10(f15.5) with fin GHz
2) Common mode reference impedance is 25Ω.
    Common mode return loss helps absorb reflection and noise improving EMI.

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| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Units |
| Differential Output Impedance |   | RIND | 80 | 100 | 120 | Ω |
| Input AC Common Mode Input Voltage |   |   | 0 |   | 25 | mV (RMS) |
| Source to Sink DC Potential Difference |   | VCM | 0 |   | 3.6 | V |

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| Parameter | Conditions | Symbol | Min. | Max. | Units |
| Differential input Voltage Swing |   | VID | 120 See 2) |   | mV |
| Differential Return Loss | 0.05—0.1GHz 0.1—5.5GHz 5.5—12GHz | SDD11 | 20 8 See 1) |   | dB |
| Common Mode Return Loss | 0.1—15GHz | SCC11 | 3 |   | dB |
| Total Jitter |   | Tj |   | TBD | UI |

1) SDD11(dB)=8-20.66 log10(f15.5) with f in GHz
2) Beneath this level the signal can’t meet the specification Optical Characteristics

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| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Units |
| Nominal Wavelength |   | TRP | 840 | 850 | 860 | nm |
| Spectral Width |   | λ |   | 0.4 | 0.45 | nm |
| Operating Range | 62.5/125μm MMF 50/125μm MMF 62.5/125μm MMF 50/125μm MMF 50/125μm MMF | 160 400 200 500 2000 | IOP | 2 2 2 2 2 |   | 26 66 33 82 300 |
| Nominal Signalling Speed |   |   | fOPT |   |   | 10.71 |
| Launch Power | in OMA | PoptOMA | -4.3 |   |   | dBm |
| Average Launch Power |   | Poptavg | -7.3 | -2.6 | -1 | dBm |
| Extinction Ratio |   | ER | 3.5 | 5.5 |   | dB |
| Relative Intensity Noise |   | RIN |   |   | -128 | dB/Hz |

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| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Units |
| Center Wavelength |   | C | 840 | 850 | 860 | nm |
| Receiver Sensitivity | in OMA, BER 10-12 at 31\_1 | PIN |   | -13.5 | -11.1 | dBm |
| Stressed Receiver Sensitivity | in OMA | IN |   |   | -7.5 | dBm |
| Saturation Input Power |   | SAT |   |   | 1 | dBm |