

Product Datasheet

AFBR-2CAR02Z-C

Avago Broadcom® Compatible 1G/10Gb/s SFP+ Active Optical Cable, Active, 2m

FEATURES

- Hot pluggable
- Bit rate support from 1G to 11.3Gbps
- Up to 100m by active optical cable with OM2/OM3 fiber
- Pre-terminated fiber cable
- Operating environment temperature 0 ~ 70°C
- Low power consumption
- SFP+ housing with enhanced EMI shielding
- Single 3.3V power supply
- Programmable EEPROM for serial identification

APPLICATIONS

- 10G Ethernet
- Applicable to 1G Ethernet
- 8G Fiber Channel
- Applicable to 4G / 2G / 1G Fiber Channel
- 10G Fiber Channel over Ethernet
- 1X QDR Infiniband
- Applicable to 1X DDR / 1x SDR Infiniband
- High-capacity IO with SFP+ interface
- Data center and in-rack connection
- Compliance
- SFF-8431 SFP+ Electrical MSA
- SFF-8432 SFP+ Mechanical MSA
- RoHS complaint

DESCRIPTION

ATGBICS SFP AOC cable assemblies are high-performance, cost effective I/O solutions for 10Gb Ethernet and 10G Fiber Channel applications. SFP+ active optical cables allow hardware manufacturers to achieve high port density, configurability, and utilization at a very low cost and to reduce power budget. The high-speed cable assemblies meet and exceed the performance and reliability requirements stipulated by Gigabit Ethernet and Fiber Channel industry standard.

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Host Board Connector Pin (Top View)



Note:

1. For detail information, please refer to SFF-8083 0.8mm Card Edge Connector for 8/10 Gbps Applications

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SFP+ Connector Pin



| Pin | Symbol | Logic | Description | Note |
|-----|------------|-----------|-------------------------------------|------|
| 1 | VeeT | | Module Transmitter Ground | 1 |
| 2 | Tx_Fault | LVTTL-O | Not supported. | 3 |
| 3 | Tx_Disable | LVTTL-I | Not supported. | 3 |
| 4 | SDA | LVTTL-I/O | 2-wire Serial Interface Data Line | 2 |
| 5 | SCL | LVTTL-I/O | 2-wire Serial Interface Clock | 2 |
| 6 | Mod_ABS | | Module Absent | 2 |
| 7 | RS0 | LVTTL-I | Not supported. | 3 |
| 8 | Rx_LOS | LVTTL-O | Not supported. | 3 |
| 9 | RS1 | LVTTL-I | Not supported. | 3 |
| 10 | VeeR | | Module Receiver Ground | 1 |
| 11 | VeeR | | Module Receiver Ground | 1 |
| 12 | RD- | CML-O | Receiver Inverted Data Output | |
| 13 | RD+ | CML-O | Receiver Non-Inverted Data Output | |
| 14 | VeeR | | Module Receiver Ground | 1 |
| 15 | VccR | | Module Receiver 3.3 V Supply | 4 |
| 16 | VccT | | Module Transmitter 3.3 V Supply | 4 |
| 17 | VeeT | | Module Transmitter Ground | 1 |
| 18 | TD+ | CML-I | Transmitter Non-Inverted Data Input | |
| 19 | TD- | CML-I | Transmitter Inverted Data Input | |
| 20 | VeeT | | Module Transmitter Ground | 1 |

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Notes:

1. Module circuit ground pins are isolated from the module chassis ground
2. Pull up to VccHost with 4.7k – 10k
3. No connection required
4. Power supply filtering circuit required

Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit |
|----------------------------|--------|------|-----|------|
| Storage Temperature | Ts | -40 | +85 | °C |
| Operating Case Temperature | Tc | -40 | +85 | °C |
| Operating Humidity | RH | | 85 | % |
| Supply Voltage | Vcc | -0.5 | 3.6 | V |

Note:

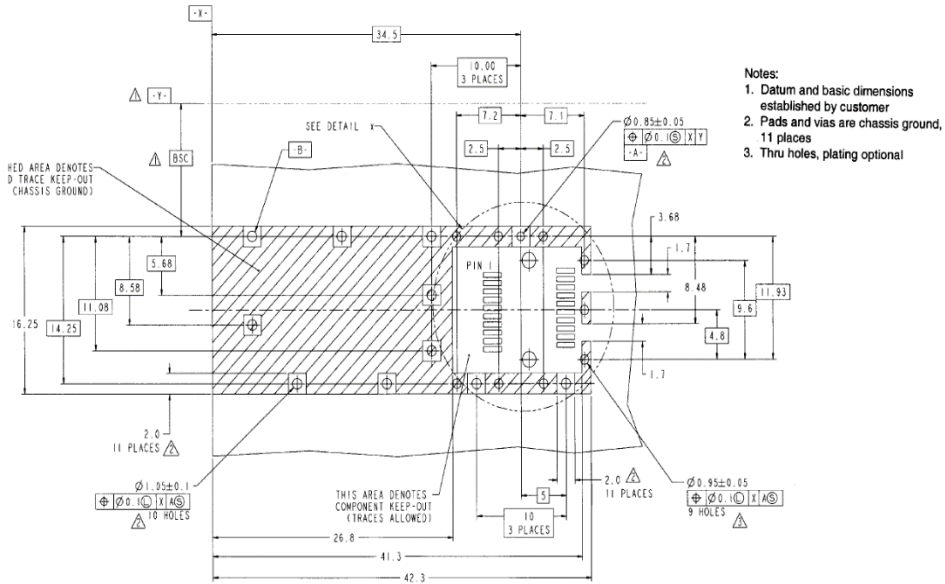
Damage may occur if the transceiver is subjected to conditions beyond the limits.

Recommended Operating Conditions

| Parameter | Symbol | Min | Max | Unit |
|----------------------------|--------|-----|------|------|
| Operating Case Temperature | Tc | 0 | +70 | °C |
| Supply Voltage | Vcc | 3.1 | 3.5 | V |
| Bit Rate | BR | 1 | 11.3 | GB |

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Host PCB Layout



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Recommended Power Supply Filter



References:

1. SFF-8431 “Specifications for Enhanced Small Form Factor Pluggable Module SFP+”
2. SFF-8432 “Specification for Improved Pluggable Form factor”
3. SFF-8472 “Specification for Diagnostic Monitoring Interface for Optical Transceivers”

Mechanical Drawing

