

SmartAX MA5671A Datasheet

Multi-service Access Module

Date: 2022-10-28

Product Overview

The MA5671A is a SFP ONU developed by Huawei . In the downstream direction, the MA5671A connects to a switch or router through a GE port to provide the high-speed Internet (HSI) and VoIP services; in the upstream direction, the MA5671A connects to an OLT through a GPON port



Product Highlights

- **Flexible Environmental Adaptability:**
The small-size and light weight MA5671A supports various installation scenario
- **Convenient Deployment:**
The MA5671A is plug-and-play and supports one-stop deployment. When the MA5671A uses GPON upstream transmission, it supports offline deployment.
- **Abundant Services:**
The MA5671A provides high bandwidths and concurrently supports abundant services, such as data service and high definition (HD) videos. In addition, the MA5671A provides comprehensive QoS assurance for each service, meeting users' differentiated service requirements.
- **Comprehensive Management and Maintenance:**
The MA5671A supports multiple high efficient management and maintenance functions, such as remote software commissioning, acceptance, upgrade and patch installation, and fault location.

- Remote batch upgrade: The MA5671A supports automatic batch upgrade and version rollback in the event of an upgrade failure, which ensures system and data security.
- Zero-touch routine maintenance: The MA5671A supports comprehensive information collection, self-check and diagnosis, accurate fault location, and remote troubleshooting.

Technical Specifications

Dimensions (WxDxH)	12.5mm x 72mm x 14.1mm	Power consumption	≤ 2.0W
Ambient temperature	Operating temperature: -40°C to +85°C Storage temperature: -40°C to +85°C	Power Supply Voltage	+3.3 V DC (ripple and noise ≤ 100mV)
Ambient humidity	5%RH to 95%RH	Power Supply Current	≤ 610 mA TX VCC ≤ 500 mA RX VCC ≤ 500 mA
Atmospheric pressure	70kPa~106kPa	Weight	19g (With fiber caps) 18g (Without fiber caps)
Altitude	< 4000m NOTE The air density varies with the altitude, which affects the heat dissipation of a device. Therefore, the ambient temperature of the MA5671A varies with the altitude.		

Port Parameters

Optical	Electrical
<ul style="list-style-type: none"> • Transmission rate: TX: 1.244 Gbit/s, RX: 2.488 Gbit/s • Standard compliance: ITU-T G.984 • Connector type: SC/APC • Maximum transmission distance: 20km • Overload optical power: ≥ -8 dBm • Extinction ratio (ER): ≥ 10 dB • Average shutdown optical power: ≤ -45 dBm • -20 dB spectral width: ≤ 1 nm • SMSR: ≥ 30 dB • Tburst_on duration: ≤ 12.8 ns Tburst_off duration: ≤ 12.8 ns • TX: <ul style="list-style-type: none"> - optical power: 0.5dBm to 5.0 dBm - wavelength range: 1290 nm to 1330 nm, Center wavelength: 1310 nm - laser type: DFB • RX: <ul style="list-style-type: none"> - sensitivity: ≤ -27 dBm 	<ul style="list-style-type: none"> • Interface type: SGMII • Interface bandwidth: 1 GE/2.5 GE • TX-end: <ul style="list-style-type: none"> - input level standard: CML - electrical port coupling mode: DC - differentiated input signal swing: 200 mV to 1600mV • TX enabling voltage: 2-3.3 V (disabled); ≤ 0.8 (enabled) • Ttxdisable_on duration of the TX_Disable module: ≤ 2 ms Ttxdisable_on duration of the TX_Disable module: ≤100 us • RX+/- output level standard: CML RX+/- output level standard: AC RX+/- output signal swing: 300 mV to 1200mV • IIC interface rate: ≤ 90 kHz • LOS assert: ≥ -45 dBm • LOS De assert: ≤ -29 dBm

<ul style="list-style-type: none"> - PD type: APD - wavelength range: 1480 nm to 1500 nm, Center wavelength: 1490 nm 	
DDM Monitoring Performance	PON MAC
<ul style="list-style-type: none"> • Digital diagnostic monitoring (DDM) monitoring standard: SFF 8472 <p>NOTE</p> <p>DDM: A monitoring method, which is used to monitor optical transceiver parameters, including temperature, power supply, voltage, optical bias current, TX optical power, and RX optical power.</p> <ul style="list-style-type: none"> • Voltage monitoring report error: $\pm 3\%$ (Unit: V) • RX optical power report error: ± 3 dB • Bias current monitoring report error: $\pm 10\%$ (Unit: mA) • TX optical power report error: ± 3 dB • Temperature monitoring report error: ± 3 (Unit: °C) 	<ul style="list-style-type: none"> • Flash memory: 16MB • DDR capacity: 64MB • Protocol compliance: GPON

Standard Compliance

Environment Standard	EMS Standard	Safety Standard
ROHS5/REACH	EN55022/FCC IEC61000-4-2 IEC61000-4-3	IEC60950-1/EN60950-1/UL60950-1 IEC60825-1 Class 1 FDA 21CFR 1040.10/1040.11


Function List

Layer 2 Management	Software management
<ul style="list-style-type: none"> • MAC address management • VLAN+MAC forwarding 	<ul style="list-style-type: none"> • Automatic remote bulk upgrades configured and started through NMS • Immediately taking effect or taking effect the next time for an upgrade • Remote GPON upgrades using OMCI • Configuration file rollback • SFF-8472-compliance
QoS	Fault diagnosis
<ul style="list-style-type: none"> • Priority processing • Traffic management • Hierarchical quality of service (HQoS) • Congestion management • Access control list (ACL) policies 	<ul style="list-style-type: none"> • GPON line diagnosis • Ping operations

Copyright © Huawei Technologies Co., Ltd. 2022. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions

 HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base Bantian,
Longgang Shenzhen 518129 People's
Republic of China

Website: www.huawei.com