

ZISA OP151S

1GE GPON SFU SFP module



Description

OP151S is a GPON stick which is completely compliant to SFP MSA structure, providing customers a great convenience to update the uplink port of their devices from the legacy Ethernet to up-to-date high bandwidth GPON. The GPON stick integrates one GPON MAC & one Ethernet MAC inside, requires no external GPON ONU for the update.

Specifications

- GPON ONU in SFP MSA structure
- 1.244Gbps uplink / 2.488Gbps downlink GPON
- Single fiber bi-directional receptacle, support SC/UPC or SC/APC
- 1310nm burst mode DFB transmitter / 1490nm continuous mode APD receiver
- Built in digital diagnostics functions (SFF-8472)
- Support SGMII or 1000BASE-X mode on golden finger
- One single 3.3V power supply.
- Support receiving Dying Gasp interrupt from Host, & reporting to OLT
- -40 to 60°C operating ambient temperature (no fan)
- Compliant with ITU-T G.984.x (G.984.5 support)
- Compliant with SFF-8472
- Compliant with FDA 21 CFR 1040.10 & 1040.11, Class I
- Compliant with IEEE 802.3
- Compliant with ITU-T G.984.2 Amd1, Class B+

Performance

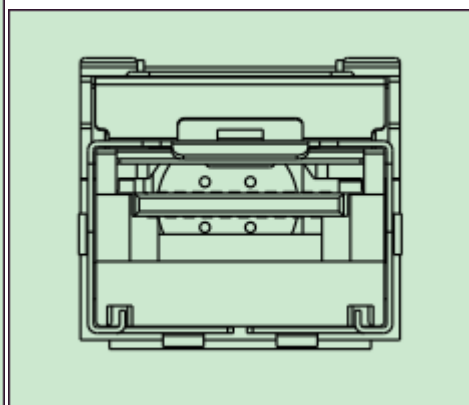
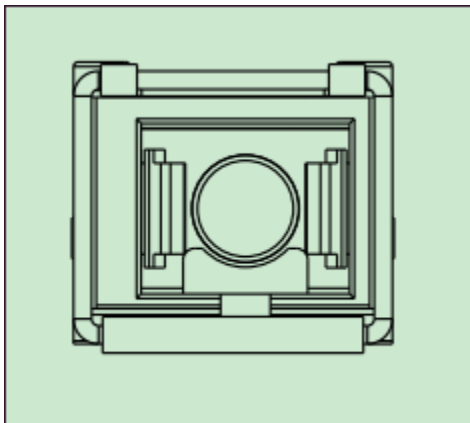
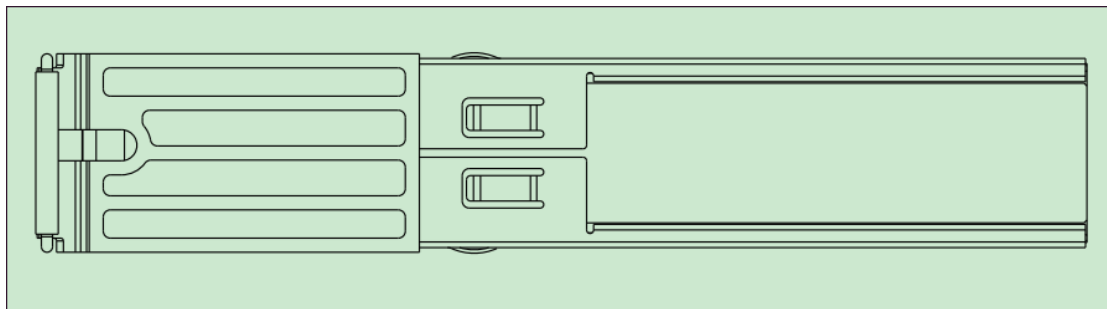
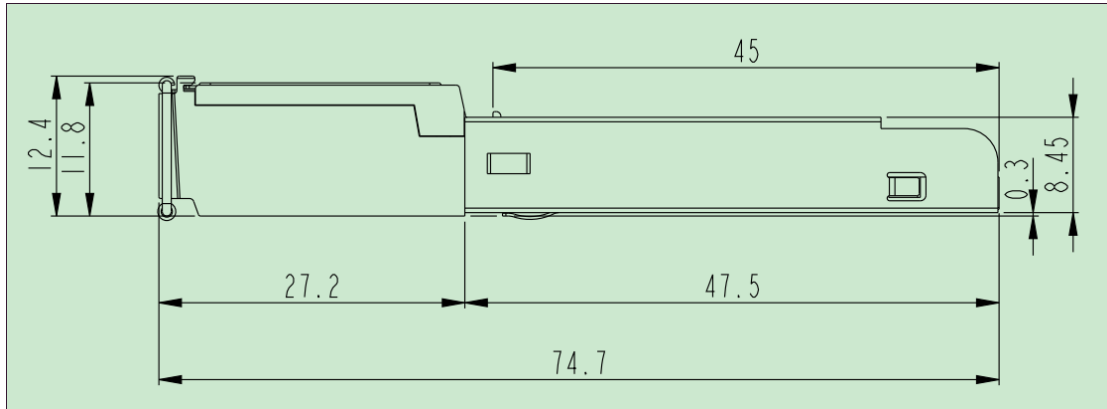
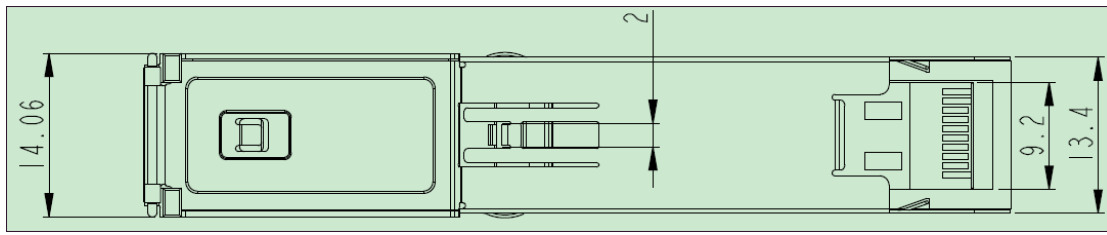
Overview	
Type	GPON SFP ONU
ZISA PN	OP151S
Main Chip	Lantiq PEF98035ET
Uplink	GPON
Downlink	Golden Finger, SGMII or 1000Base-X
Operating Temperature	-40 ~ 60°C for Ambient Temperature -40 ~ 85°C for Case Temperature
Operating Humidity	5%~95%, non condensing
Dimension	Compliant with SFF 8472i, 74.7x14.1x12.4mm
Installation	SFP, hot plugable
Weight	<40g
Regulatory	CE
Layer2 Features	
Bridging	Support MAC filter, MAC binding Support 4096bytes MTU Support GEM Port, Bridge Port, UNI Port Rate limit No Mac learning, forwarding based on the VLAN rules
VLAN	Support V LAN Tag Filter based on G.988 Support VLAN Tag Operation based on G.988 Support Multicast VLAN Operation based on G.988
QoS	Support SP, WRR , SP+WRR in the upstream Support SP in the downstream
OAM	
Management	Support OMCI, Web GUI, CLI
Upgrading	Support firmware upgrade via OMCI,WEB GUI,TFTP,FTP Support firmware upgrade from WAN side
Image Rollback	Hold a working image & a alternative image for image rollback
Restore Default	Use Web GUI, Telnet method to restore factory default
GPON uplink	
Interface	1x SC/APC or 1x SC/UPC connector, single mode fiber
Standard	Compliant with ITU G.984.2 Class B+ Compliant with ITU G.984.5 Compliant with FDA 21 CFR 1040.10 and 1040.11 Compliant with laser safety standard IEC-60825 Class I
Transmitter	DFB transmitter working in 1310nm, with >10dB Extinction Ratio Mean launch power in 0.5~5dBm range SMSR > 35dB

	Turn on/off time at burst mode < 12.8ns
Receiver	APD receiver working in 1490nm, with -8 ~ -28dBm working range Isolation to 1310nm > 47dB Isolation to (1440~1450nm), (1530~1540nm) > 25dB Isolation to (1400~1440nm), (1540~1625nm) > 36dB
Bandwidth	Up: 1244.16Mbps / Down: 2488.32Mbps
TCONT / GEM	Support type 1~5 TCONT defined in G.984.3 Support 8 TCONT(including OMCI TCONT) Support 8 GEMPORT Support flexible mapping between TCONT & GEMPORT
FEC	Support upstream & downstream FEC
Security	AES-128 Decryption with key generation and switching
Golden Finger Downlink	
Type	Support 1000BASE-X or SGMII, 1.25Gbps
Transmit Rise Time	100~200ps, from 20% to 80%
Transmit Fall Time	100~200ps, from 20% to 80%
Differential Impedence	80~120ohm
RX Differential Voltage	Output range 370 ~ 1000 mV
TX differential Voltage	Input range 250 ~ 2400mV
Power Solution	
Type	SFP, single 3.3V power
DC input	3.3V +/- 5%
Consumption	At 25C: 1.0W for idle condition; 1.8W for full loading condition At 60C: 1.4W for idle condition; 2.2W for full loading condition
Compliance	
Regulatory	CE , TUV, WT-177 compliant
EMC/EMI	Compliant with EN 55022, class B Compliant with EN 300 386 Compliant with EN 61000-4-1~5
Safety	Compliant with IP20 mechanical design Support fire resistance material, compliant with UL 94-V0 Compliant with IEC 60950-1
ENV kindness	Compliant with RoHS 2.0 standard

Pin Definition

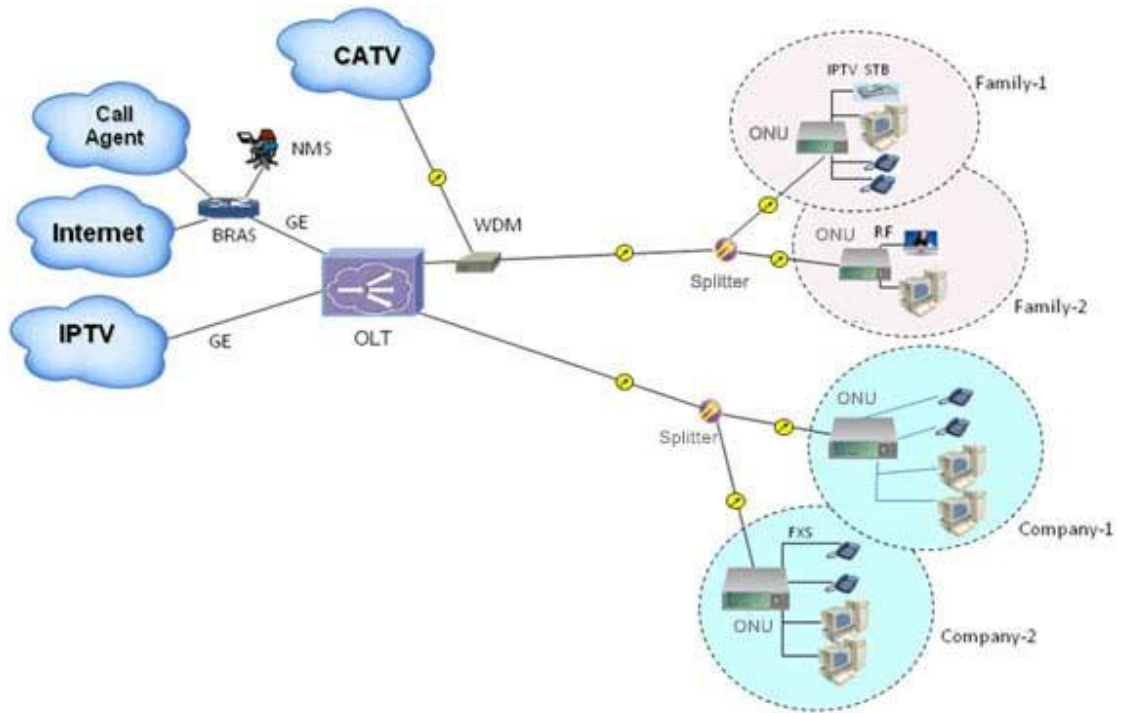
Pin#	Name	In/Out	Function	Remark
1	VEET	Power	Transmitter Ground	
2	TX_fault/ToD	Output	Transmitter Fault interrupt High: TX fault / Low: Normal	Open collector output.
3	TX_disable	Input	Disable transmitter High: Disable / Low: Enable	Pulled up internally.
4	SDA	Bi-	I2C SDA	Pulled up internally.
5	SCL	Input	I2C SCL	Pulled up internally.
6	Module Present	Output	Low active. High: Absent / Low: Present	Pulled up Internally.
7	Dying-Gasp	Input	Dying-Gasp input. High: Normal / Low: Dying	Pulled up with 10Kohm internally.
8	LOS/1PPS	Output	LOS of RX Signal High: loss of RX signal Low: Normal	Pulled up int, max 8mA driver
9	VEER	Power	Receiver Ground	*This pin can be 1pps with a different mounting option.
10	VEER	Power	Receiver Ground	
11	VEER	Power	Receiver Ground	
12	RD-	Out	Receiver Inverted DATA out.	AC coupled internally.
13	RD+	Out	Receiver Non-inverted DATA out.	AC coupled internally.
14	VEER	Power	Receiver Ground	
15	VCCR	Power	Receiver Power Supply	3.3V±5%, connected with VCCT int
16	VCCT	Power	Transmitter Power Supply	3.3V±5%, connected with VCCR int
17	VEET	Power	Transmitter Ground	
18	TD+	In	Transmitter Non-Inverted DATA in.	AC coupled int.
19	TD_	In	Transmitter Inverted DATA in.	AC coupled int.
20	VEET	Power	Transmitter Ground	

Mechanical



Application

Providing pluggable GPON ONU function for Ethernet Switch, Router, Home gateway & other customer premises equipment



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