

OAT1521S-OLT-B, OAT1521S-ONU-B

ATM-PON Optical Module

APPLICATION

- Optical transceiver for ATM-PON application (ITU-T Rec. G.983)

FEATURES

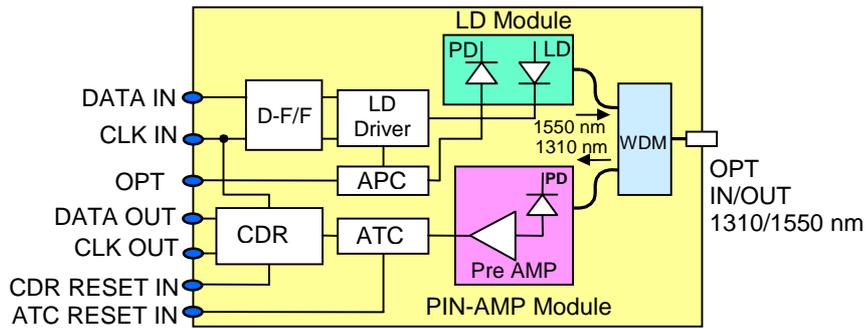
- 1-fiber bi-directional transmission by incorporated WDM
- Burst signal transmission
- +3.3V single power supply

SPECIFICATION**[Transmitter]**

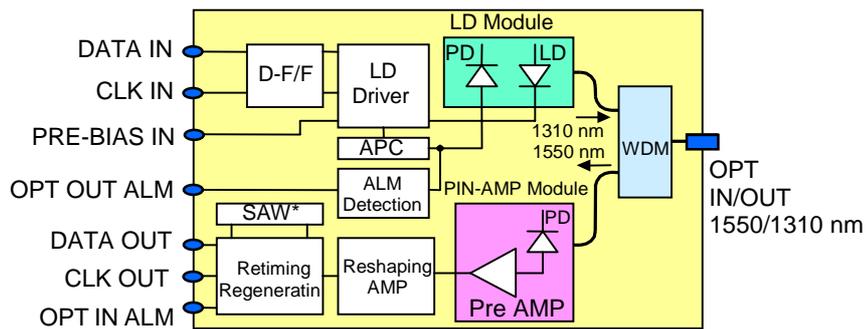
	OAT1521S-OLT-B	OAT1521S-ONU-B
ITU-T Rec. G983	Class B	Class B
Bit rate (Mb/s)	155.520	
Transmission distance (km)	≤ 20	
Transmission mode	Tx: continuous, Rx: burst	Tx: burst, Rx: continuous
Optical wavelength (nm)	Tx: 1480 to 1580 Rx: 1260 to 1360	Tx: 1260 to 1360 Rx: 1480 to 1580
Maximum reflectance of equipment, measured at transmitter wavelength (dB)	—	≤ -6
Mean launched power range (dBm)	-4 to +2	-4 to +2
Minimum extinction ratio (dB)	≥ 10	≥ 25
Tolerance to the transmitter incident light power (dB)	≥ -15	
Launched optical power w/o input to the transmitter (dBm)	—	≤ -43
Maximum spectral width (nm)	≤ 1 (@ -20 dB)	≤ 5.8 (@ rms)
Side mode suppression ratio (dB)	≥ 30	—
Maximum reflectance of equipment, measured at receiver wavelength (dB)	≤ -20	
Received optical power [BER = 10 ⁻¹⁰] (dBm)	-30 to -8	-30 to -8
Consecutive identical digit immunity	≥ 72	
Tolerance to the reflected optical power (dB)	≤ 10	
Power consumption (W)	1.2	1.0
Laser diode	1.55 μm DFB-LD	1.31 μm FP-LD
Photo diode	PIN-PD	
Operating temperature (°C)	0 to 70	-40 to 85
Dimension (mm)	40 × 60 × 8.5	

BLOCK DIAGRAM

[OLT Module]



[ONU Module]

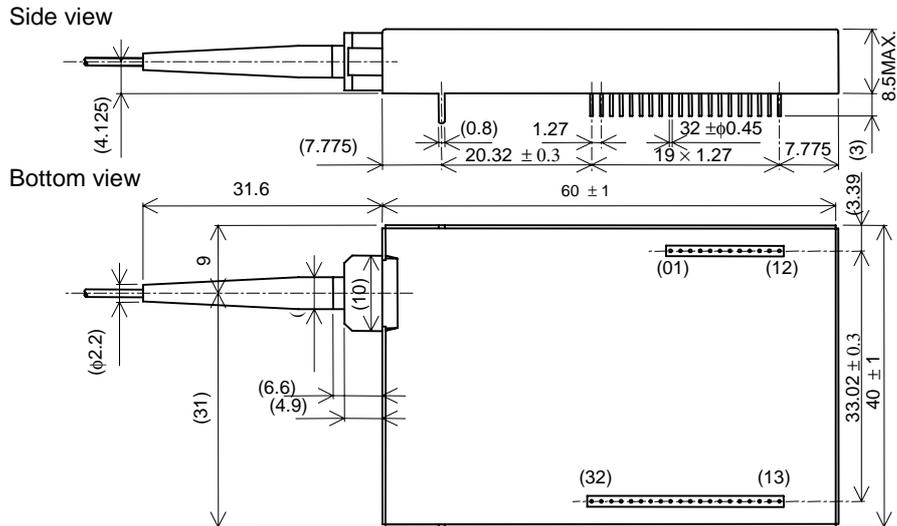


SAW: Surface Acoustic Wave Filter

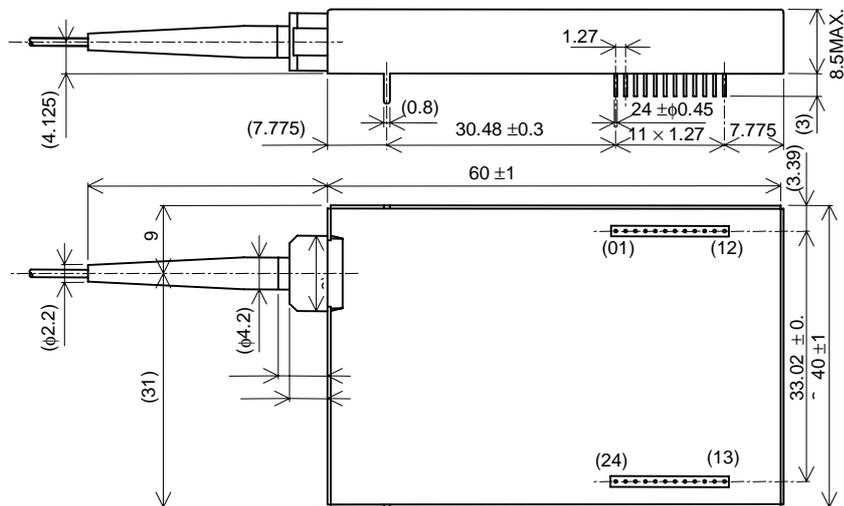
PACKAGE OUTLINE

(Unit: mm)

[OLT Module]



[ONU Module]



PIN DESCRIPTIONS

[OLT Module]

No.	Symbol	Functionality
01	SV _{CC}	Transmitter power supply (SV _{CC} = +3.3 V)
02	GND	Ground
03	SDATAP	Positive data input <LVPECL>
04	SDATAN	Negative data input <LVPECL>
05	SCLKP	Positive clock input <LVPECL>
06	SCLKN	Negative clock input <LVPECL>
07	GND	Ground
08	SHUT	Optical output shut down <LVTTTL>
09	CD	Clock down alarm <LVTTTL>
10	TD	Transmitter degraded alarm <LVTTTL>
11	TF	Transmitter failure alarm <LVTTTL>
12	GND	Ground
13	GND	Ground
14	ALM	Sync. out alarm <LVTTTL>
15	GND	Ground
16	POC	Power on clear <LVTTTL>
17	BRSP	Positive CDR reset <LVPECL>
18	BRSN	Negative CDR reset <LVPECL>
19	GND	Ground
20	RCLKP	Positive clock output <LVPECL>
21	RCLKN	Negative clock output <LVPECL>
22	GND	Ground
23	RDATAP	Positive data output <LVPECL>
24	RDATAN	Negative data output <LVPECL>
25	GND	Ground
26	BV _{CC}	Power supply for CDR (BV _{CC} = +3.3 V)
27	GND	Ground
28	GND	Ground
29	RSN	Negative ATC reset <LVPECL>
30	RSP	Positive ATC reset <LVPECL>
31	GND	Ground
32	RV _{CC}	Power supply for ATC (RV _{CC} = +3.3 V)

[ONU Module]

No	Symbol	Functionality
01	SV _{CC}	Transmitter power supply (SV _{CC} = +3.3 V)
02	GND	Ground
03	SHUT	Optical output shut down <LVTTTL>
04	TF	Transmitter failure alarm <LVTTTL>
05	GND	Ground
06	BIASP	Positive Pre-bias <LVPECL>
07	BIASN	Negative Pre-bias <LVPECL>
08	GND	Ground
09	SDATAP	Positive data input <LVPECL>
10	SDATAN	Negative data input <LVPECL>
11	SCLKP	Positive clock input <LVPECL>
12	SCLKN	Negative clock input <LVPECL>
13	GND	Ground
14	LOS	Loss of signal alarm <LVTTTL>
15	GND	Ground
16	RDATAN	Negative data output <LVPECL>
17	RDATAP	Positive data output <LVPECL>
18	GND	Ground
19	RCLKN	Negative clock output <LVPECL>
20	RCLKP	Positive clock output <LVPECL>
21	GND	Ground
22	GND	Ground
23	RV _{CC1}	Receiver power supply (RV _{CC1} = +3.3 V)
24	RV _{CC2}	Receiver power supply (RV _{CC2} = +3.3 V)

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