

Single-mode 266Mbps Transmitter / Receiver

Features

Transmitter :

- 2 x 8 pins plastic case
- 1310nm, or 1550nm LD transmitter with automatic power control
- AC or DC coupled LVPECL or PECL compatible data input and output
- Single 3.3V or 5V power supply



Receiver :

- 2 x 8 pins plastic case
- InGaAs PIN detector
- PECL or TTL signal detect output
- Single 3.3V or 5V power supply



Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	
Transmitter						
Data Rate (NRZ)	B	10	266	300	Mb/s	
Optical Output Power (avg.) ^{(1) (2) (3)}						
-1	P_o	-12	-	-6	dBm	
-2	P_o	-6	-	0	dBm	
Extinction Ratio	ER	8.3	-	-	dB	
Optical Wavelength						
1310nm FP LD	λ_c	1260	1310	1360	nm	
1310nm DFB LD	λ_c	1290	1310	1330	nm	
1550nm FP LD	λ_c	1490	1550	1610	nm	
1550nm DFB LD	λ_c	1530	1550	1570	nm	
Spectral Width (RMS, -20dB)						
1310nm FP LD	$\Delta\lambda$	-	1.0	2.0	nm	
1550nm FP LD	$\Delta\lambda$	-	1.0	2.5	nm	
Side Mode Suppression Ratio						
1310nm DFB LD	SMSR	30	40	-	dB	
1550nm DFB LD	SMSR	30	40	-	dB	
Output Rise Time (10-90%)	t_r	-	0.4	1.0	ns	
Output Fall Time (10-90%)	t_f	-	1.0	1.5	ns	
Data Input ⁽⁶⁾	DC Coupled	V_{IL} V_{IH}	$V_{CC} - 1.810$ $V_{CC} - 1.165$	- -	$V_{CC} - 1.475$ $V_{CC} - 0.880$	V V
	AC Coupled (Differential)	V_I	0.25	-	1.6	V
Supply Voltage	V_{CC}	3.10 4.75	3.3 5.0	3.50 5.25	V	
Supply Current	I_{CC}	-	-	110	mA	

Parameter		Symbol	Min.	Typ.	Max.	Unit
Receiver						
Data Rate (NRZ)		B	-	266	300	Mb/s
Optical Input (avg.) Sensitivity ⁽¹⁾ ⁽⁵⁾		P _{IN}	-	-36	-34	dBm
Saturation		P _{SAT}	-3	0	-	dBm
Optical Wavelength		λ	1100	-	1600	nm
Output Rise Time (10-90%)		t _r	-	1.5	2.0	ns
Output Fall Time (10-90%)		t _f	-	1.5	2.0	ns
Data Output ⁽⁶⁾	DC Coupled	V _{OL} V _{OH}	V _{CC} -1.840 V _{CC} -1.045	- -	V _{CC} -1.62 V _{CC} -0.88	V V
	AC Coupled (Differential)	V _I	0.6	-	1.8	V
Signal Detect Asserted (avg.)		P _A	-	-	-35	dBm
Signal Detect Deasserted (avg.)		P _D	-45	-	-	dBm
Hysteresis		P _{HYS}	-	2	-	dB
Supply Voltage		V _{CC}	3.10 4.75	3.3 5.0	3.50 5.25	V
Supply Current		I _{CC}	-	-	100	mA

Notes :

- (1) With 0.275 NA, 9/125μm fiber.
- (2) Driven with a differential signal.
- (3) Class 1 eye safe per FDA and IEC.
- (4) Eye mask diagram is compliant to ITU-T G.957 Eye Diagram.
- (5) 2²³ -1 PRBS, BER= 10⁻¹⁰.
- (6) Compatible with LVPECL and PECL logic levels.
- (7) The transmitter output should not be viewed directly.

Absolute Maximum Ratings

Parameter		Min.	Max.	Unit
Operating Temperature	-1	0	70	°C
	-2	-40	85	°C
Storage Temperature		-40	100	°C
Lead Soldering Limits		-	240/10	°C /sec
Supply Voltage		-0.2	4	V

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Ordering Information

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Operating Temperature Range :

1 : 0 ~ 70°C

2 : -40 ~ 85°C

Data Coupling & SD Output Level :

Symbol	Tx Coupling	Rx Coupling	SD
C	AC	DC	PECL
D	AC	DC	TTL
E	AC	AC	PECL
F	AC	AC	TTL
G	DC	DC	PECL
H	DC	DC	TTL
I	DC	AC	PECL
J	DC	AC	TTL

Receptacle / Pigtail Type :

R1 : Receptacle Type

PG : Pigtail Type

(fiber length 100cm)

Package Type :

G : 2X8 Pins Metal Case

P : 2X8 Pins Plastic Case

K : 2X10 Pins Metal Case

Supply Voltage :

5 : 5V

3 : 3.3V

Connector Type :

SC : SC Connector (only for pigtail type)

FC : FC Connector

ST : ST Connector

Laser Type :

L : FP LD

F : DFB LD

Tx Output Power Grade :

(refer to Specifications)

1 : -1

2 : -2

Wavelength :

13 : 1310nm

15 : 1550nm

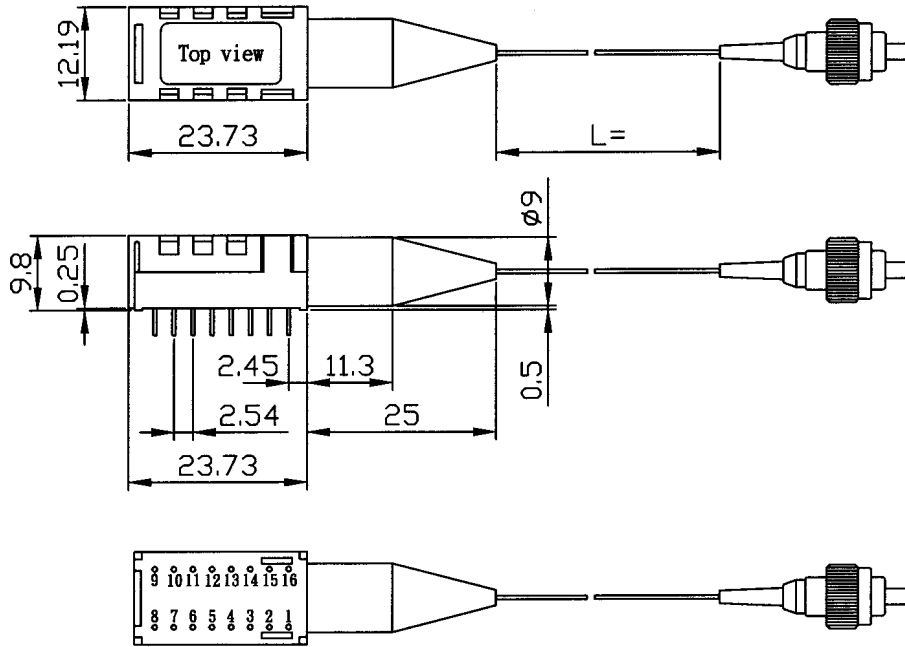
TX / RX :

T : Transmitter

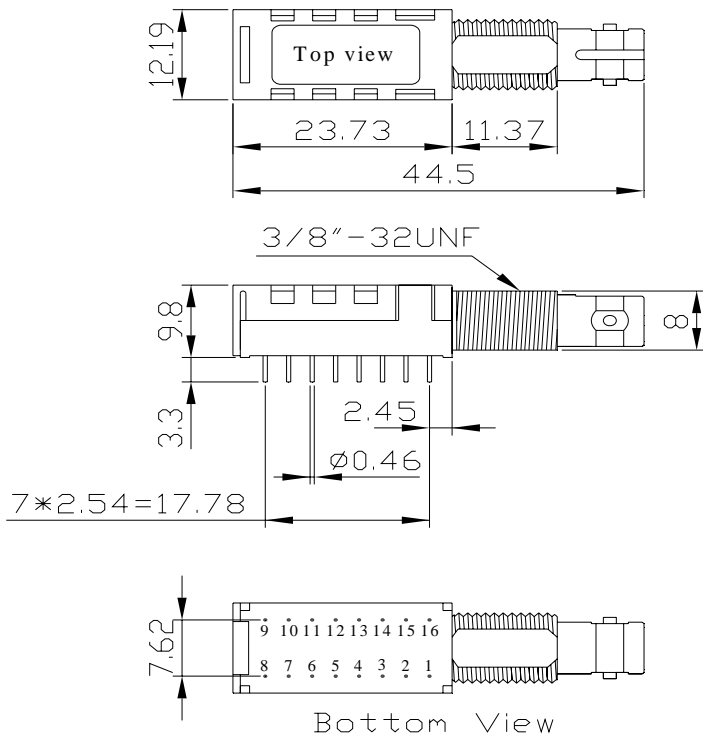
R : Receiver

Outline Drawing (2x8 pins Plastic Package)

A-type Pin-Out Pigtailed



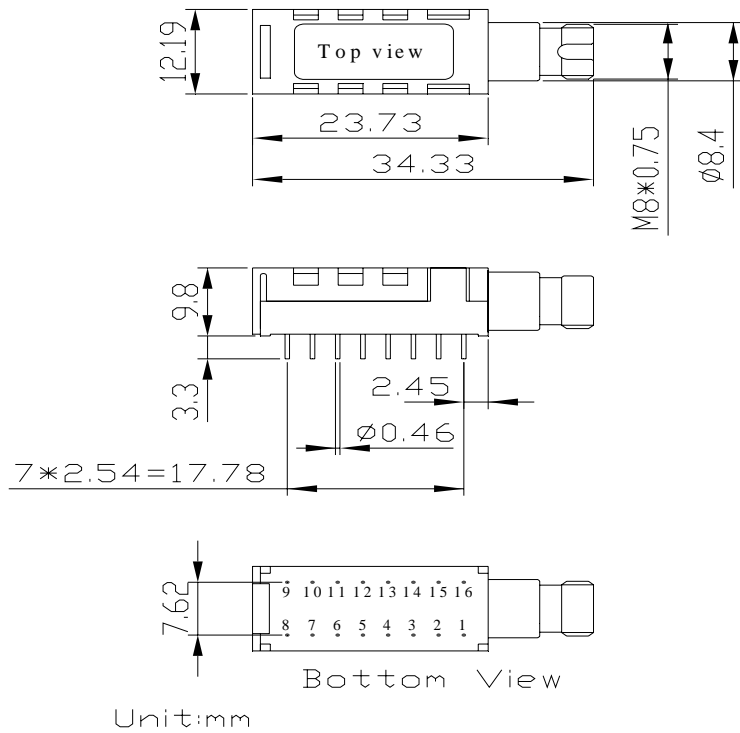
ST Receptacle



Unit:mm

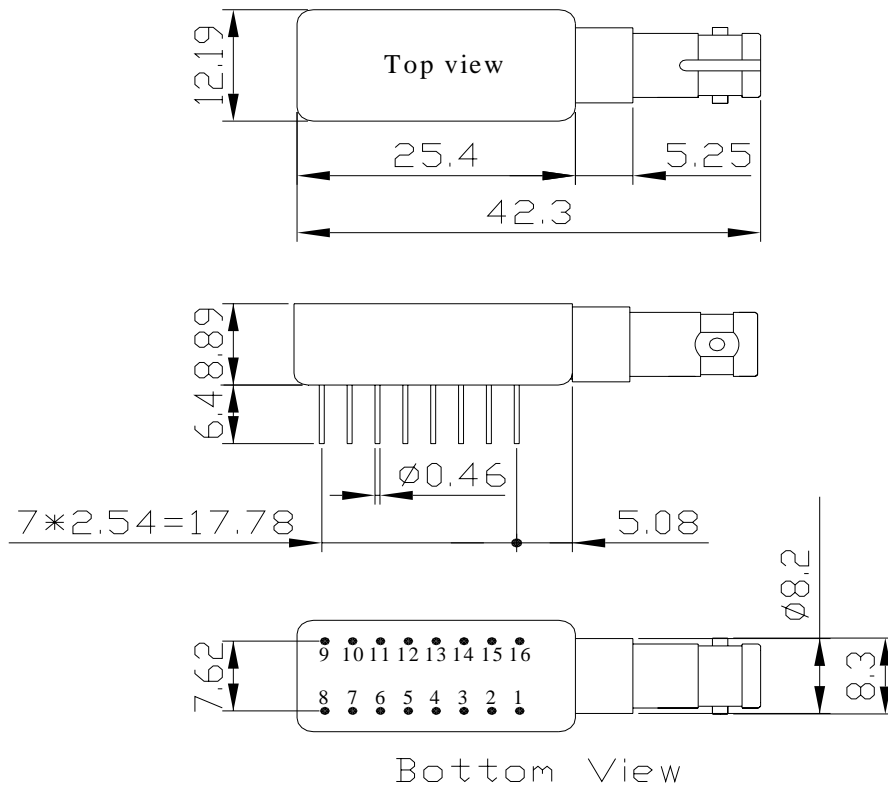
Single-mode 266Mbps Transmitter / Receiver

FC Receptacle



Outline Drawing (2X8 Pins Metal Package) :

A-type Pin-Out



A-Type Pin-out Description (2X8 Pins Package)

Transmitter Pin Assignment

Pin No.	Description
1	No Connection ^(Note)
2	No Connection
3	Vee (Ground)
4	Vee (Ground)
5	Vee (Ground)
6	Vee (Ground)
7	No Connection
8	No Connection ^(Note)
9	No Connection ^(Note)
10	Vee (Ground)
11	Vcc (Supply Voltage)
12	Vcc (Supply Voltage)
13	Vee (Ground)
14	Data In
15	Data In (Inverted)
16	No Connection ^(Note)

Receiver Pin Assignment

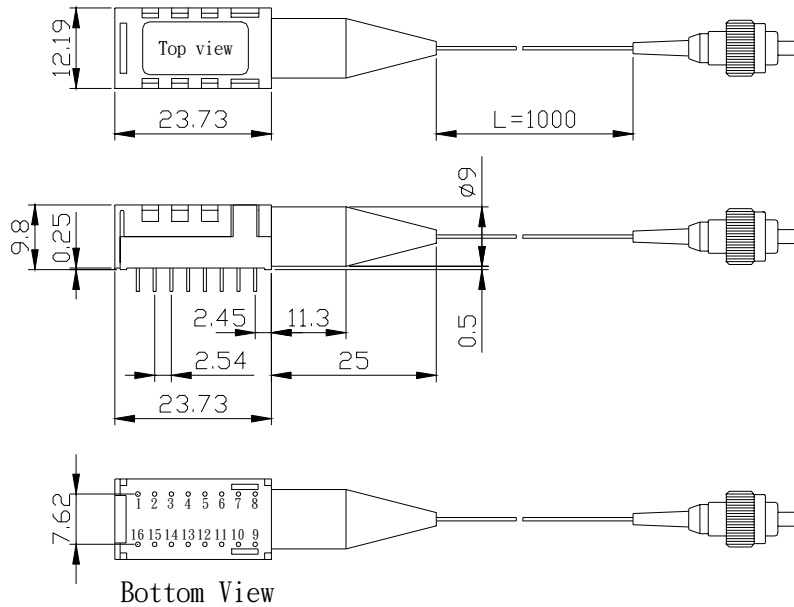
Pin No.	Description
1	No Connection ^(Note)
2	Data Out (Inverted)
3	Data Out
4	Vcc (Supply Voltage)
5	Vcc (Supply Voltage)
6	Vcc (Supply Voltage)
7	Vee (Ground)
8	No Connection ^(Note)
9	No Connection ^(Note)
10	No Connection
11	Vee (Ground)
12	Vee (Ground)
13	Vee (Ground)
14	SD
15	/SD
16	No Connection ^(Note)

Note : Metal case version Pin1, Pin8, Pin9 and Pin16 internal connect to case.

Outline Drawing (2x8 pins Plastic Package)

B-type Pin-Out

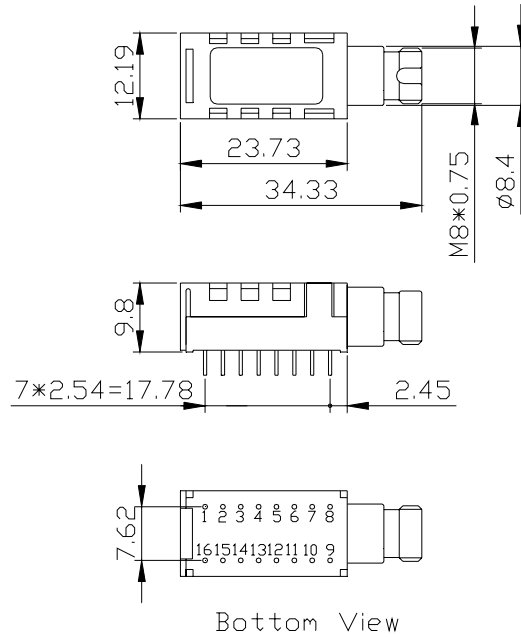
Pigtailed



UNIT : mm

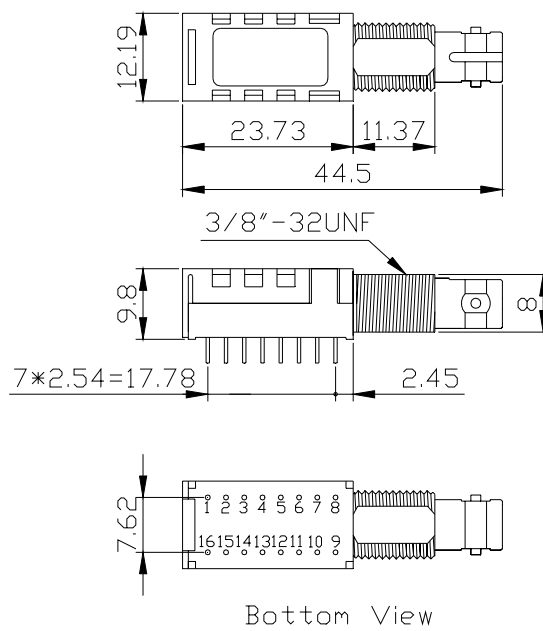
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FC Receptacle



unit: mm

ST Receptacle



unit: mm

B-Type Pin-out Description (2X8 Pins Package)

Transmitter Pin Assignment

Pin No.	Description
1	No Connection ^(Note)
2	No Connection
3	Vee (Ground)
4	Vee (Ground)
5	Vee (Ground)
6	Vee (Ground)
7	No Connection
8	No Connection ^(Note)
9	No Connection ^(Note)
10	Vee (Ground)
11	Vcc (Supply Voltage)
12	Vcc (Supply Voltage)
13	Vee (Ground)
14	Data In
15	Data In (Inverted)
16	No Connection ^(Note)

Receiver Pin Assignment

Pin No.	Description
1	No Connection ^(Note)
2	Data Out (Inverted)
3	Data Out
4	Vcc (Supply Voltage)
5	Vcc (Supply Voltage)
6	Vcc (Supply Voltage)
7	Vee (Ground)
8	No Connection ^(Note)
9	No Connection ^(Note)
10	No Connection
11	Vee (Ground)
12	Vee (Ground)
13	Vee (Ground)
14	SD
15	SD(inverted)
16	No Connection ^(Note)

Note : Metal case version Pin1, Pin8, Pin9 and Pin16 internal connect to case.

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