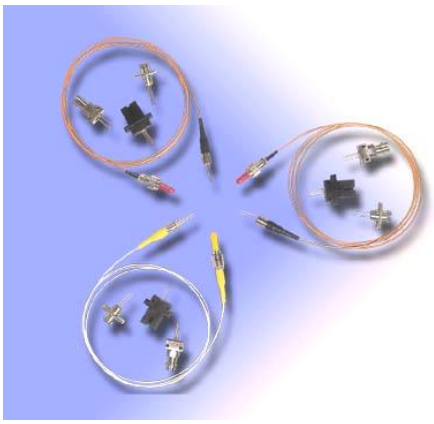
2.5Gbps 1310nm DFB Laser Diode Module

Features



- Center wavelength 1310nm
- Low threshold current
- High speed t_r/t_f < 0.12ns
- Built-in InGaAs monitor detector
- Four-lead package
- Wide operating temperature -40°C to 85°C
- Hermetically sealed TO-18 package in pigtailed or receptacle housing with FC, ST or SC connector

Applications

- Fiber In The Loop
- ATM, SONET/SDH
- Motorway and railway networks
- Intra and interoffice links
- Subscriber loops

Specifications

Optical And Electrical Characteristics (T=25+/-3 °C unless specified otherwise)

Parameter	Symbol	Test Conditions	Min	Typical	Max	Units
Peak Wavelength	λc	Po, To=-40~85°C	1290	1310	1330	nm
Threshold current	I_{th}	25°C 85°C	- -	6 30	12 40	mA
Operating voltage	V_{op}	Po	-	1.1	1.6	V
Optical output power	P_0	I_{th}+20mA				
-2			0.4	-	-	mW
-3			0.7	-	-	mW
-4			1.2	-	-	mW
Side Mode Suppression Ratio	SMSR	Po,.To=-40~+85 °C	35	40		dB
Rise time/Fall time	tr/tf	2.5Gbps, 10~90%	-	100	120	ps
Tracking error	TE	Po,To=-40~+85 °C	-1.0	-	1.0	dB
Monitor Current (PD)	I_m	Po, V_{RD} =1V, R_L=10Ω	0.05	0.5	-	mA
Dark Current (PD)	I_d	V_{RD}=5V	-	-	0.1	μA
Capacitance (PD)	Ct	V_{RD}=5V, f=1MHz	-	10	20	pF
Minimum Isolation (w/isolator)		To= 0~+60 °C	38	-	-	dB

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Optical Output Power	P_0		4	mW
Operating Current (LD)	I_{op}	-	150	mA
Reverse Voltage (LD)	V_{RL}	-	2	V
Reverse Voltage (PD)	V_{RD}	-	20	V
Forward Current (PD)	I_{FD}	-	2	mA
Case Temperature	T_o	-40	+85	°C
Storage Temperature	T_{stg}	-40	+100	°C
Lead Soldering Temperature (10sec)	T_L	-	260	°C

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Ordering Information

FD13□□S1□□□□-□□□4

4 for 2.5Gbps

Isolation
I for with Isolator
X for without Isolator

Pin Out
A or B type (Sugar Cube type only, Please see Page 5)
C or D type (Please see the Pin Connections)

Grade
1, 2, 3, 4 for coupled power level
(Please see the specs above)

Flange type
B for board mount
P for panel mount
U for UP mount
X for None
S for Sugar Cube

Receptacle:
X for free space
A for APC ferrule stop

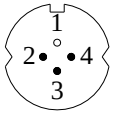
Pigtail:
P for PC connector
A for APC connector

Connector type
Receptacle: SC, FC or ST
Pigtail: SC, FC, ST, LC, MU or SMA

Fiber length
R0 for receptacle
PG for pigtail 100cm

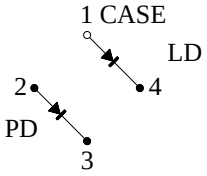
Pin Connections

BOTTOM VIEW

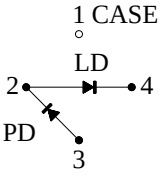


UNIT : MM

C TPYE
PIN CONNECTIONS



D TYPE
PIN CONNECTIONS



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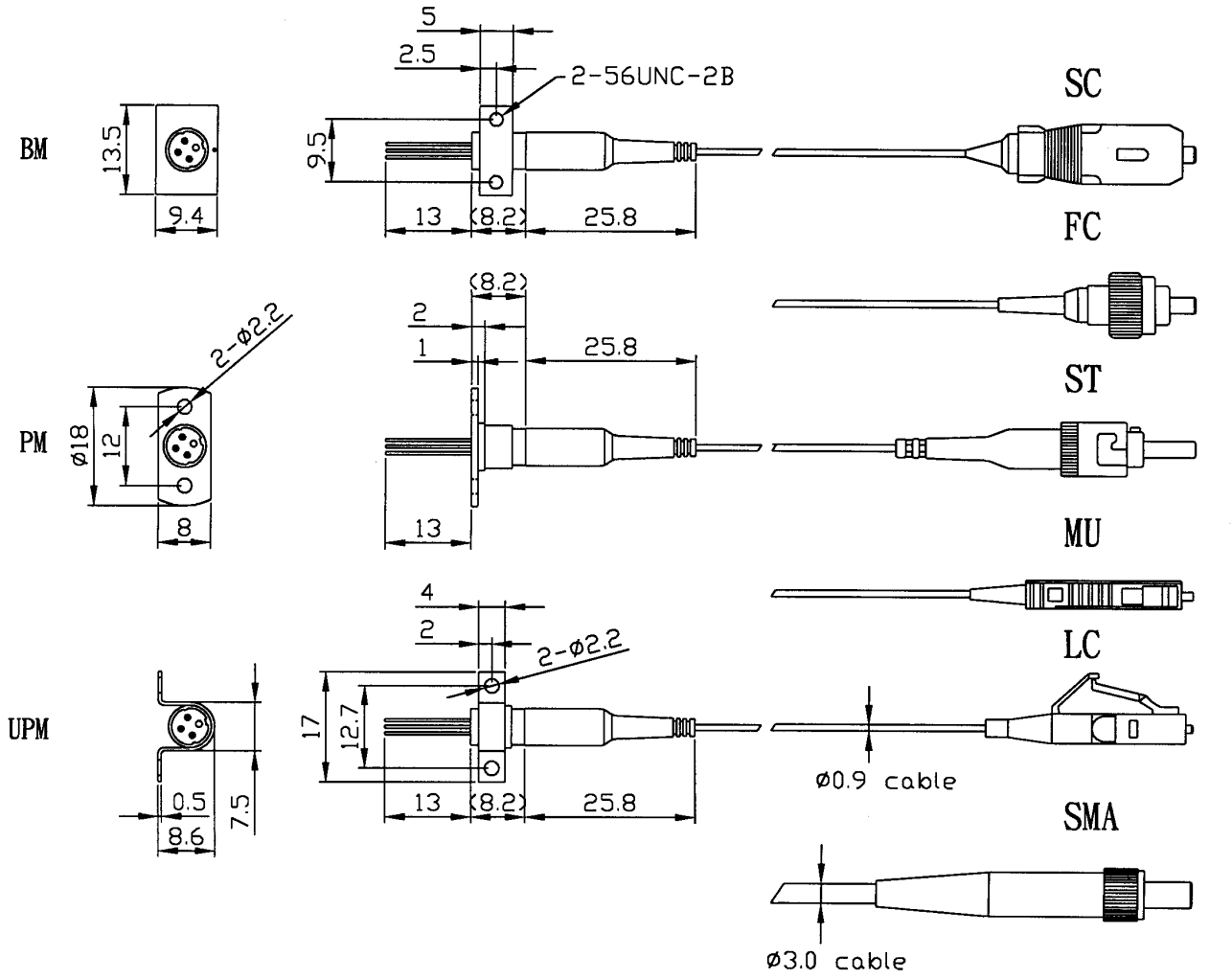
Dimension

Pigtail Type



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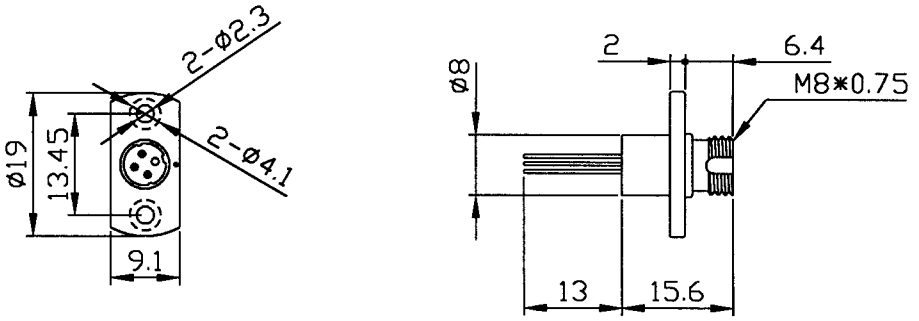
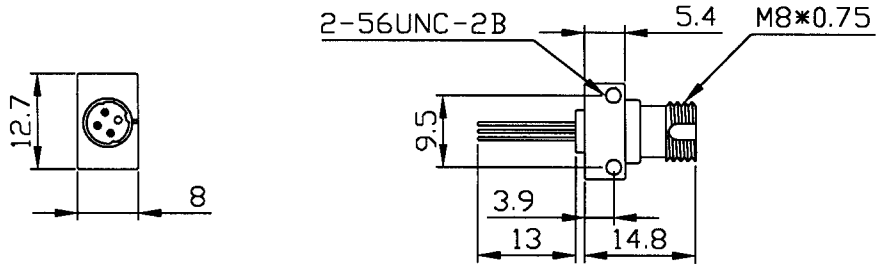
Receptacle Type

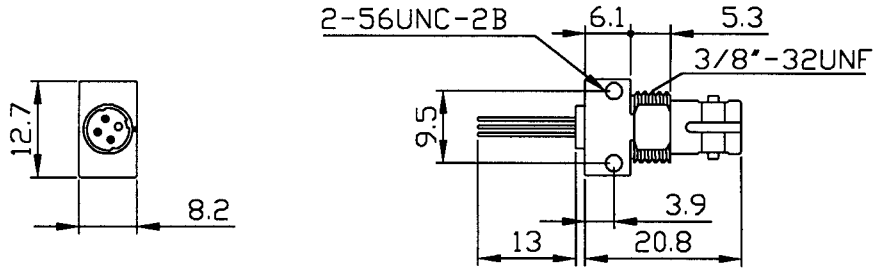
FC-PM



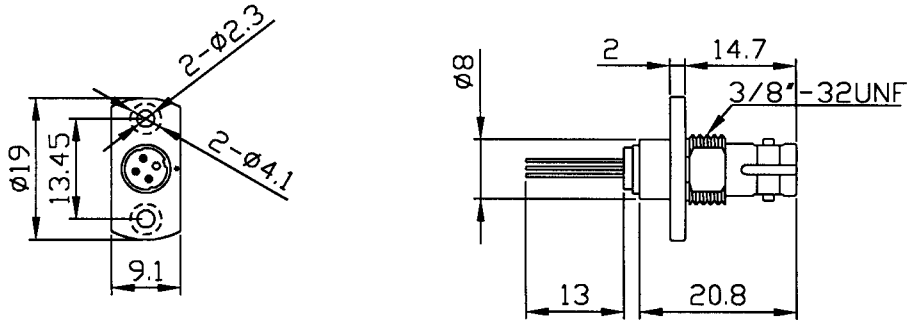
FC-BM



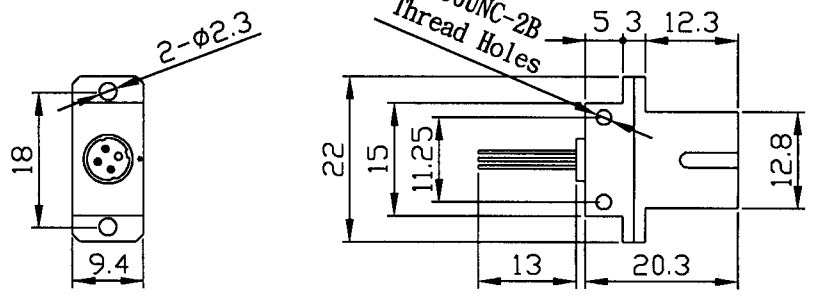
ST-BM



ST-PM



SC



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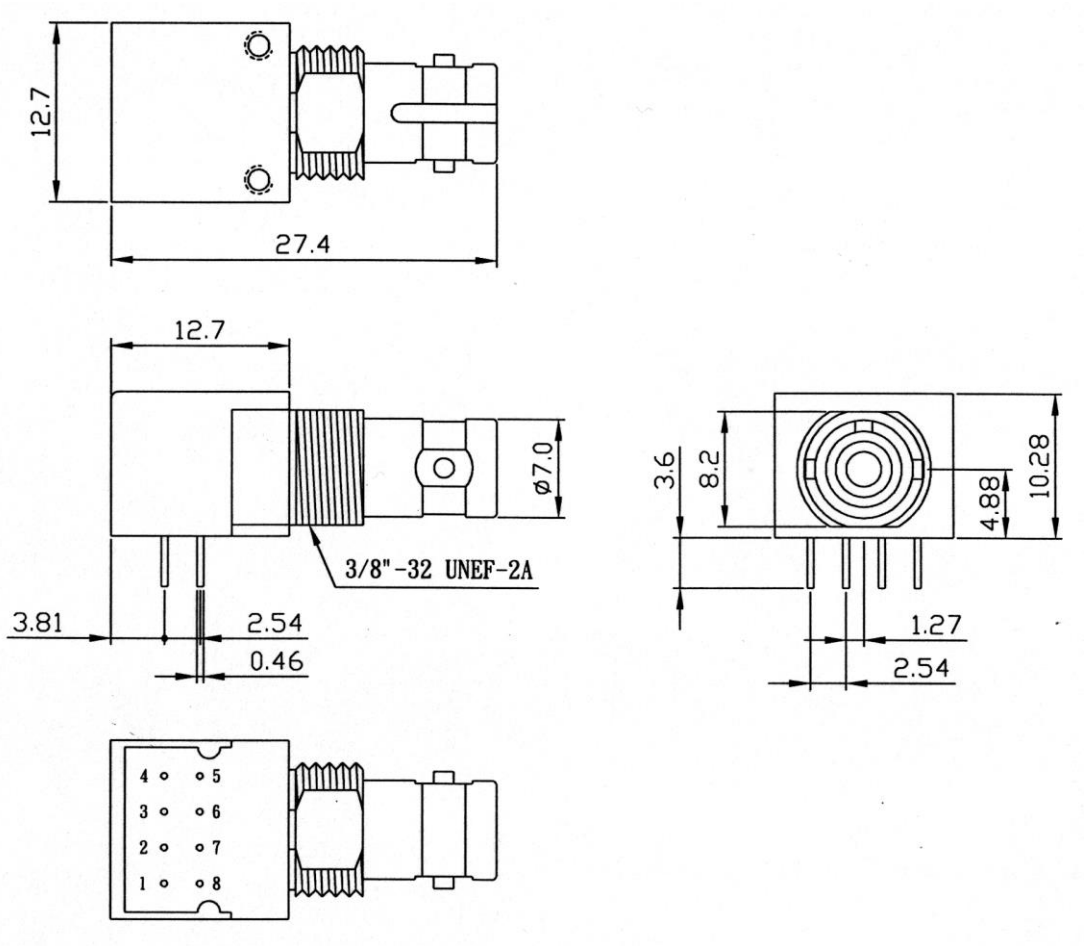
Sugar Cube

Dimension (ST Receptacle) Unit:mm



Pin Connections (Type A)

PIN No.	FUNCTION
1	NC
2	ANODE
3	CATHODE
4	NC
5	NC
6	ANODE or NC
7	ANODE or NC
8	NC

Pin Connections (Type B)

PIN No.	FUNCTION
1	NC
2	NC
3	LD Cathode (LD-)
4	NC
5	NC
6	LD Anode (LD+), PD-
7	Monitor PD Anode (PD+)
8	NC

1310 nm DFB LD
Fiber-coupled Power vs. Drive Current (-4 grade)