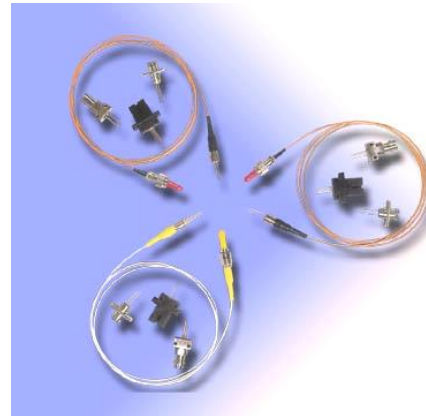


# 2.5Gbps 1550nm DFB Laser Diode Module

## Features

- Center wavelength 1550nm
- Low threshold current
- High speed  $t_r/t_f < 0.12\text{ns}$
- Built-in InGaAs monitor detector
- Four-lead package, no TEC
- Wide operating temperature  $-20^\circ\text{C}$  to  $85^\circ\text{C}$
- 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
- Trunk supervision

## Specifications

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

Parameter	Symbol	Test Conditions	Min	Typical	Max	Units
Peak Wavelength	$\lambda_c$	Po, To=-20~85°C	1530	1550	1570	nm
Spectral Width (-20dB)		Po	-	-	1	nm
Threshold Current	$I_{th}$	25°C 85°C	-	8 35	12 50	mA
Operating Voltage	$V_{op}$	Po	-	1.1	1.6	V
Optical Output Power	$P_o$	$I_{th}+30\text{mA}$ ,				
-2			0.4	-	-	mW
-3			0.7	-	-	mW
-4			1.2	-	-	mW
Side Mode Suppression Ratio	SMSR	Po, To=-20~+85 °C	35	40		dB
Rise/Fall Time	tr/ff	2.5Gbps, 10~90pst	-	100	120	ps
Tracking Error	TE	Po, To=-20~+85 °C	-1.0	-	1.0	dB
Monitor Current (PD)	$I_m$	$V_{RD}=1\text{V}$ , $R_L=10\Omega$	0.05	0.5	-	mA
Dark Current (PD)	$I_d$	$V_{RD}=5\text{V}$	-	-	1.0	$\mu\text{A}$
Capacitance (PD)	Ct	$V_{RD}=5\text{V}$ , $f=1\text{MHz}$	-	8	10	pF
Minimum Isolation (w/isolator)		To= 0~+60 °C	38	-	-	dB

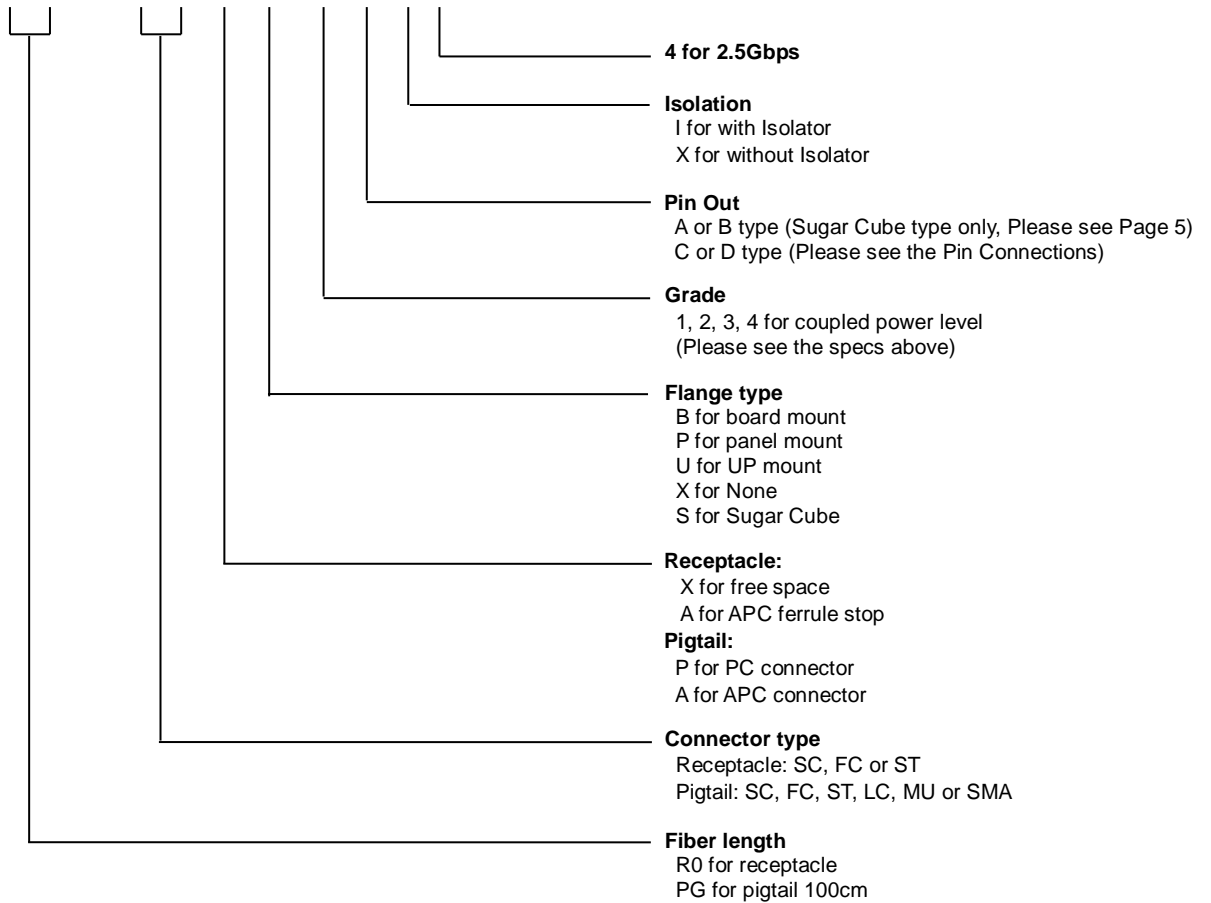
### Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Optical Output Power	Po		3	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	$T_o$	-20	+85	°C
Storage Temperature	$T_{stg}$	-40	+100	°C
Lead Soldering Temperature (10sec)	$T_L$	-	260	°C

# 2.5Gbps 1550nm DFB Laser Diode Module

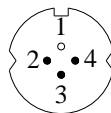
## Ordering Information

FD15□□S1□□□□-□□□4



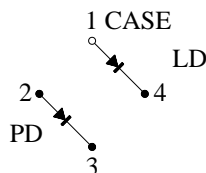
## Pin Connections

BOTTOM VIEW

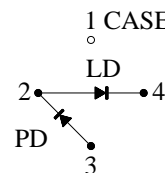


UNIT : MM

C TYPE  
PIN CONNECTIONS

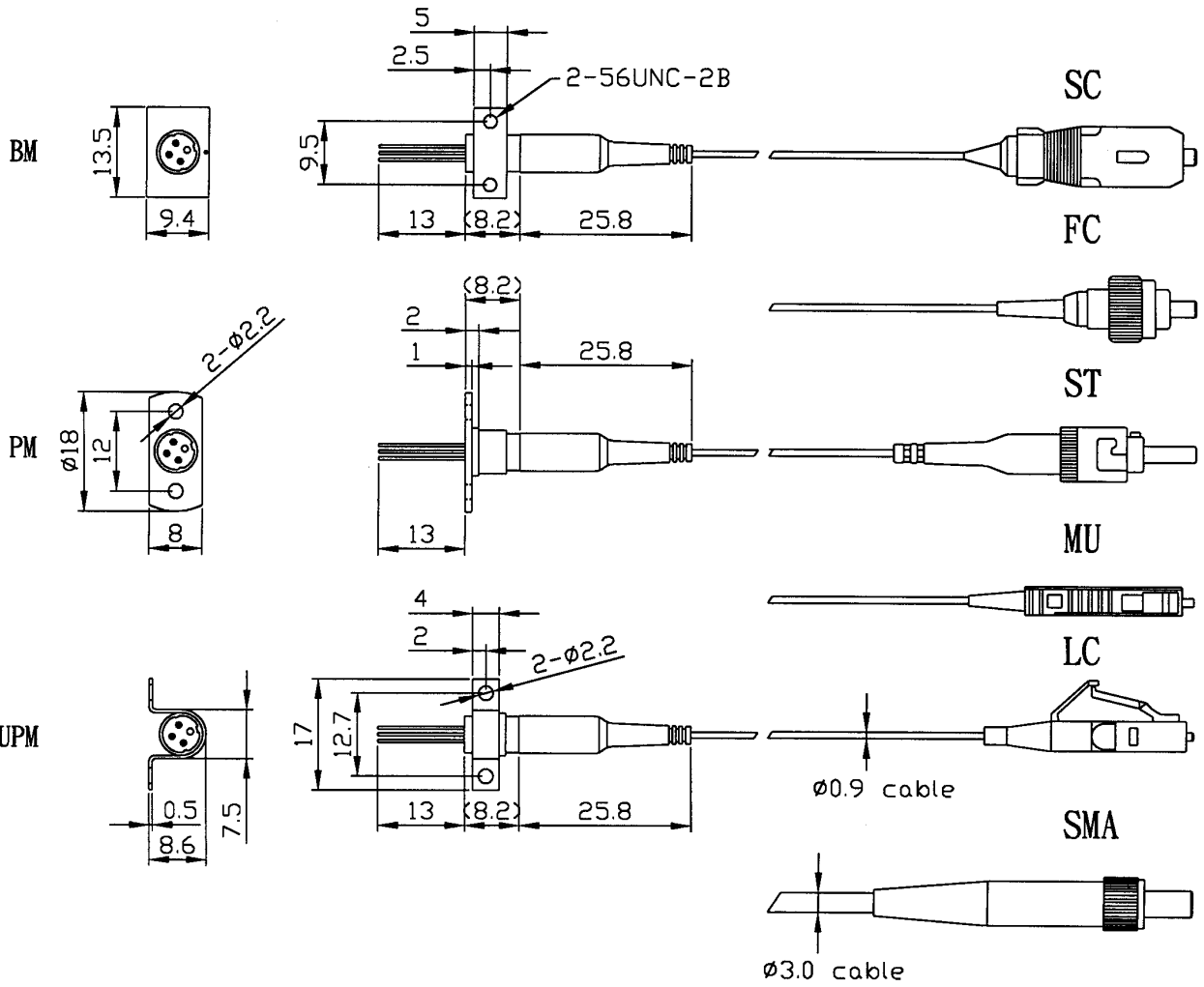


D TYPE  
PIN CONNECTIONS



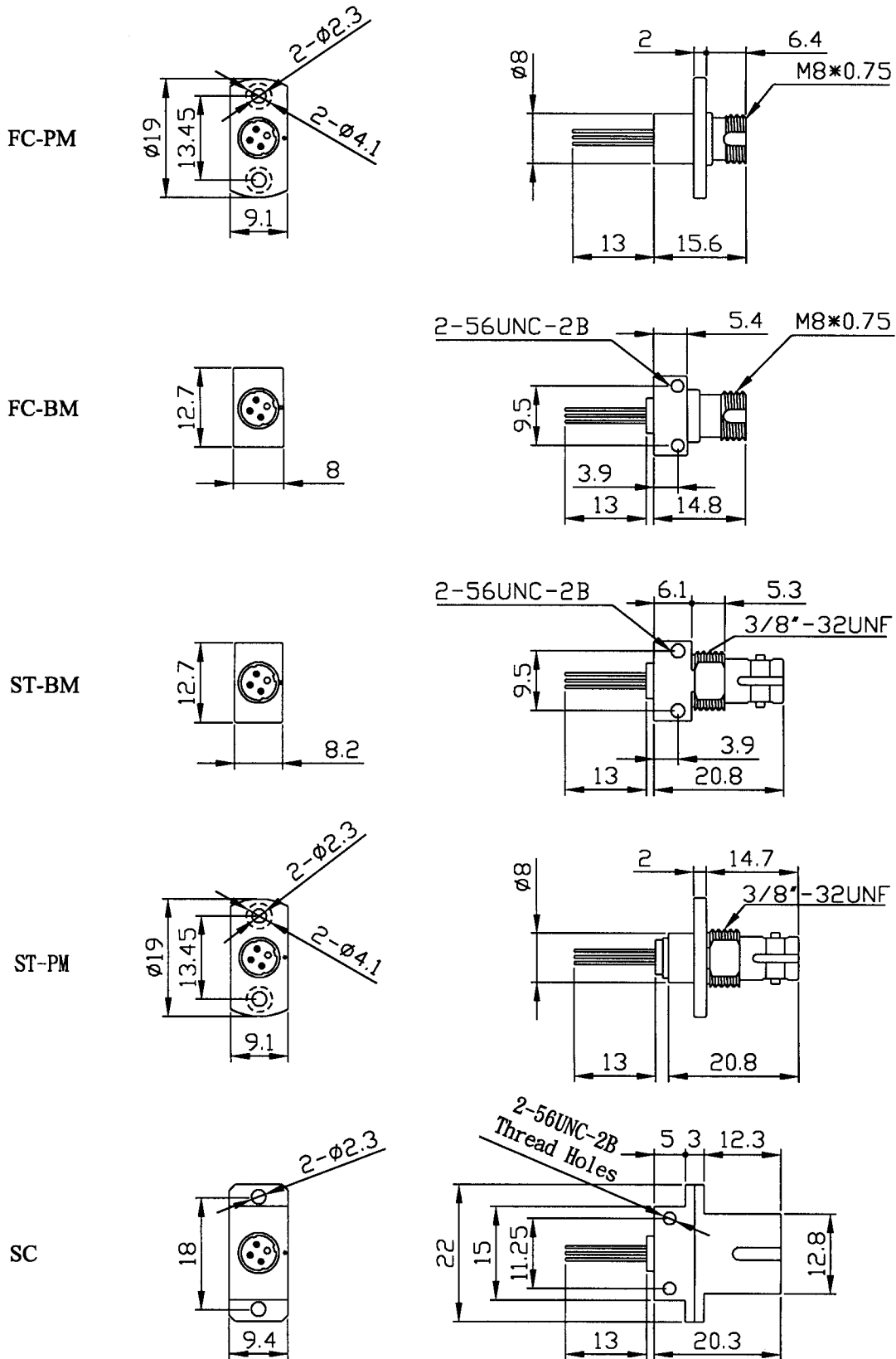
# 2.5Gbps 1550nm DFB Laser Diode Module

## Dimension Pigtail Type



# 2.5Gbps 1550nm DFB Laser Diode Module

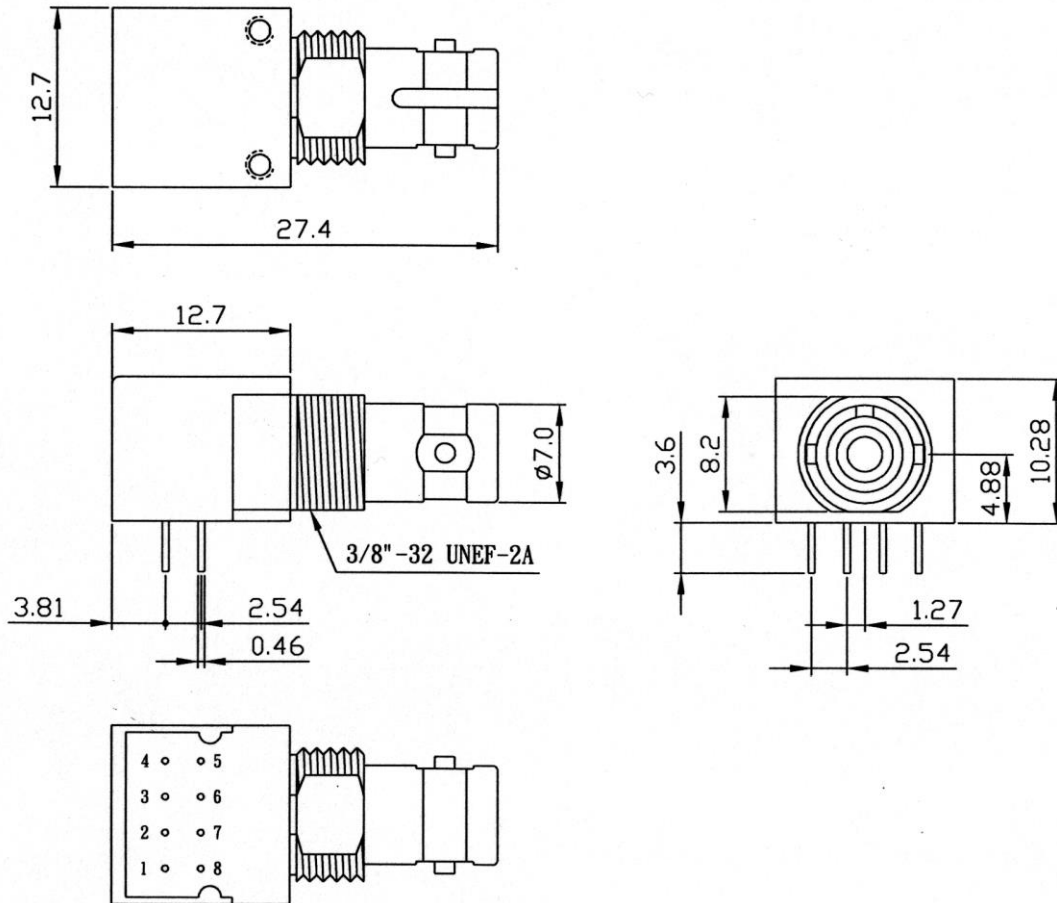
Receptacle Type



# 2.5Gbps 1550nm DFB Laser Diode Module

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

# 2.5Gbps 1550nm DFB Laser Diode Module

1550nm DFB LD  
Fiber-coupled Power vs. Drive Current (-4 grade)

