1310nm FP Laser Diode SM Module

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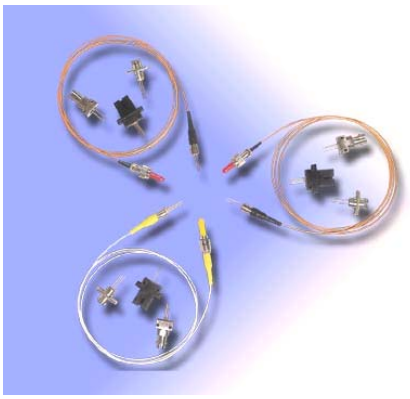
Features

- Center wavelength 1310nm
- Low threshold current
- High speed t_r/t_f < 0.7ns
- 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
- Trunk supervision
- Test instruments

Specifications

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

Parameter	Symbol	Test Conditions	Min	Typical	Max	Units
Center Wavelength	λ	25 °C -40 to 85 °C	1290 1260	1310 -	1330 1360	nm
Spectral Width	Δλ	P_0 (RMS,-20dB)	-	1	2	nm
Threshold Current	I_{th}	25 °C -40 to 85 °C	3 1	5 -	15 40	mA
Operating Voltage	V_{op}	P_0	-	1.1	1.5	V
Rise/Fall Time	t_r / t_f	10-90%	-	0.3	0.7	ns
Optical Output Power	P_0	I_{th}+20mA				
-1			0.1	0.25	-	mW
-2			0.4	0.55	-	mW
-3			0.7	0.9	-	mW
-4			1.2	-	-	mW
Differential Efficiency		P_0				
-1	-		0.01	-	-	mW/mA
-2	-		0.02	-	-	mW/mA
-3	-		0.04	-	-	mW/mA
-4	-		0.06	-	-	mW/mA
Monitor Current (PD)	I_m	P_0 ,V_{RD} =1V	0.1	0.7	-	mA
Dark Current (PD)	I_d	V_{RD}=10V	-	-	0.1	μA
Tracking Error	E_t	-40 to 85 °C	-	±1.0	-	dB

Absolute Maximum Ratings (T=25°C)

Parameter	Symbol	Min.	Max.	Unit
Forward Current (LD)	I_{op}	-	85	mA
Reverse Voltage (LD)	V_{RL}	-	2	V
Forward Current (PD)	I_{FD}	-	2	mA
Reverse Voltage (PD)	V_{RD}	-	20	V
Operating Temperature	T_O	-40	+85	°C
Storage Temperature	T_{stg}	-40	+125	°C
Lead Soldering Temperature (10 sec)	T_L	-	260	°C

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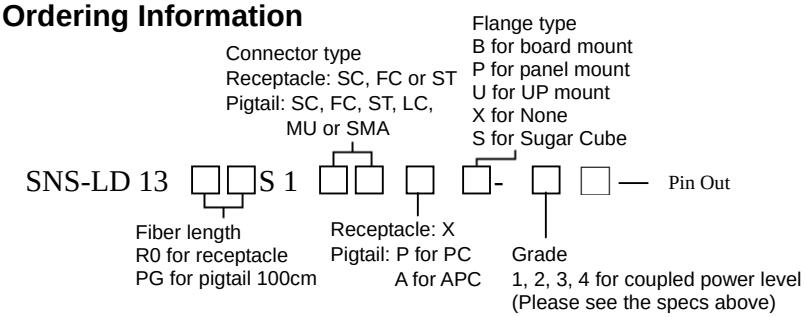
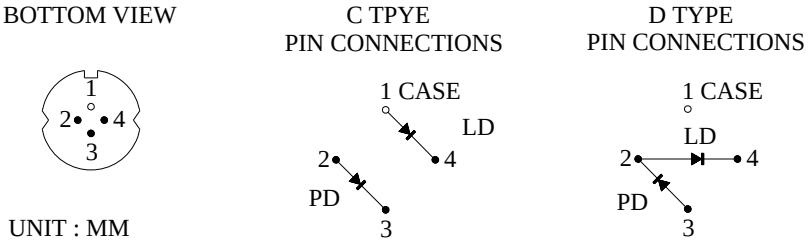
Ordering Information

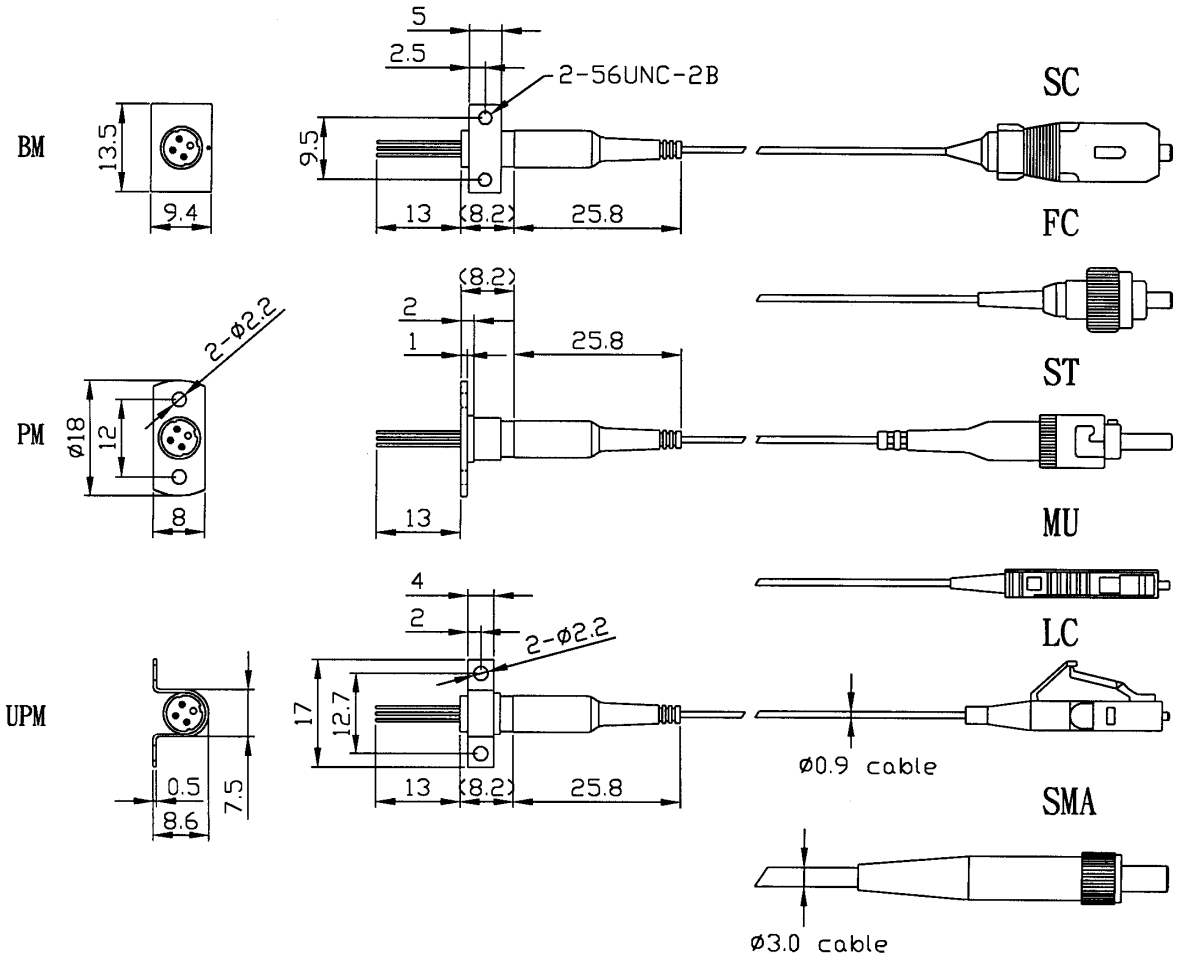


Pin Connections



Dimension

Pigtail Type



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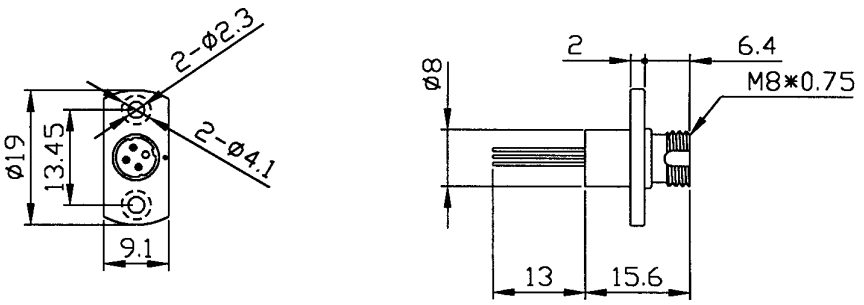
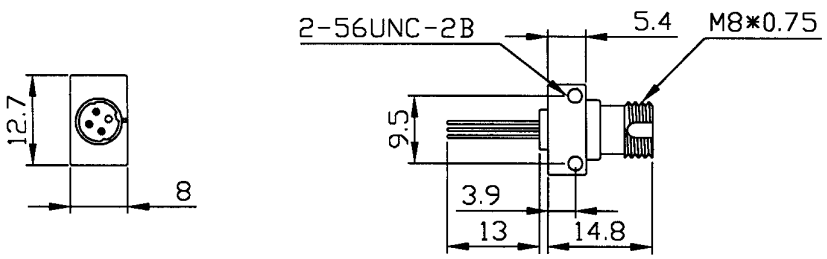
Receptacle Type

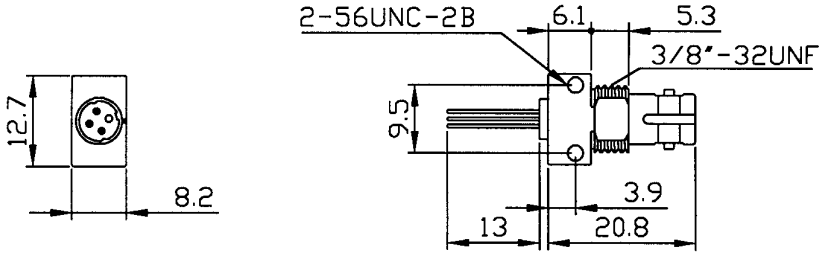
FC-PM



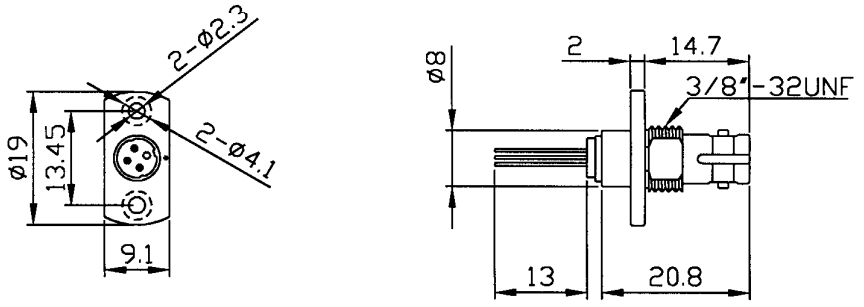
FC-BM



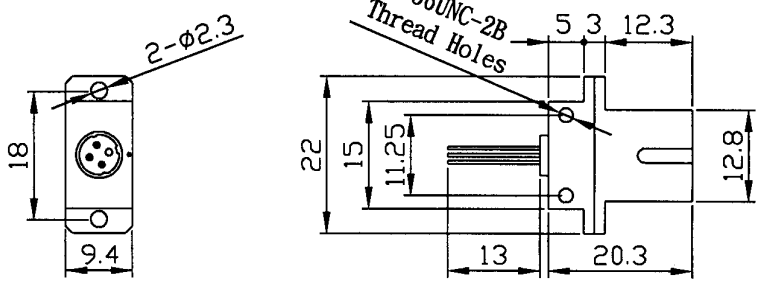
ST-BM



ST-PM



SC



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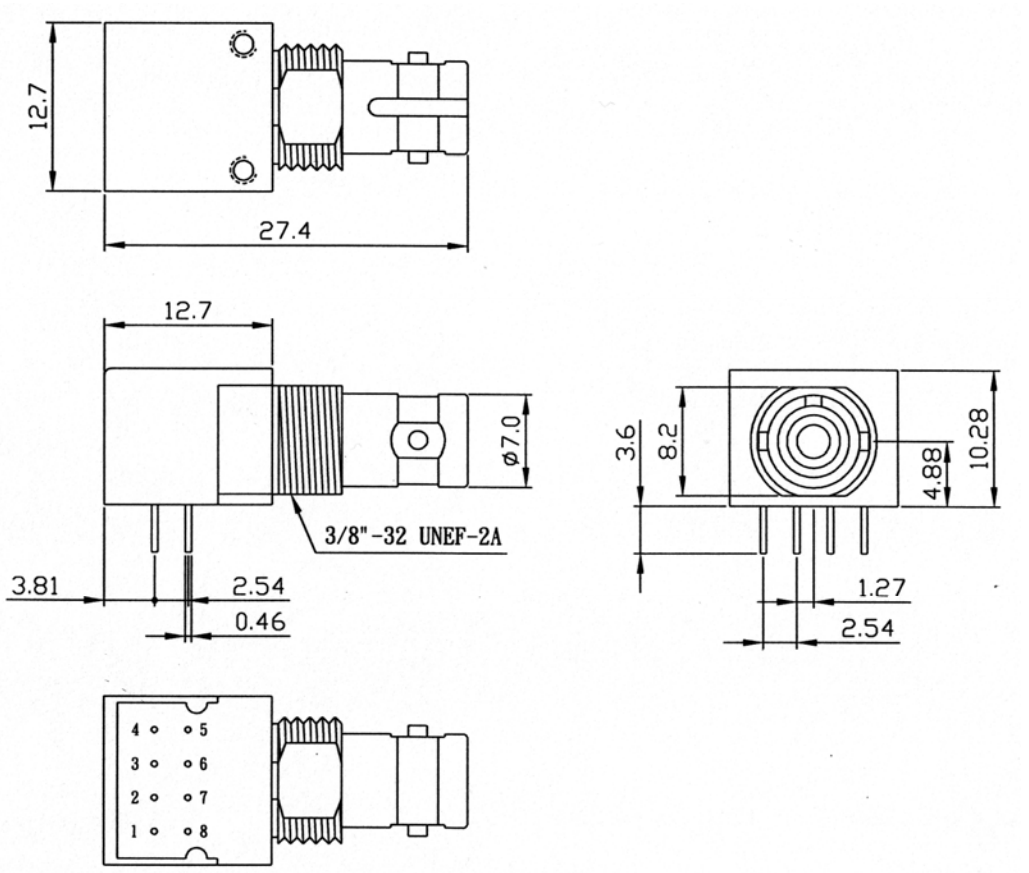
Sugar Cube

Dimension (ST Receptacle) Unit mm



Pin Connections (Type A)

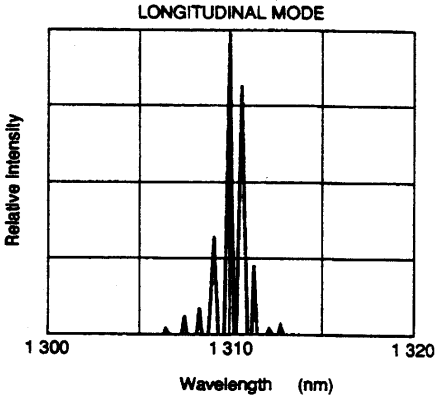
PIN No.	FUNCTION
1	NC
2	ANODE
3	CATHODE
4	NC
5	NC
6	ANODE or NC
7	ANODE or NC
8	NC

Pin Connections (Type B)

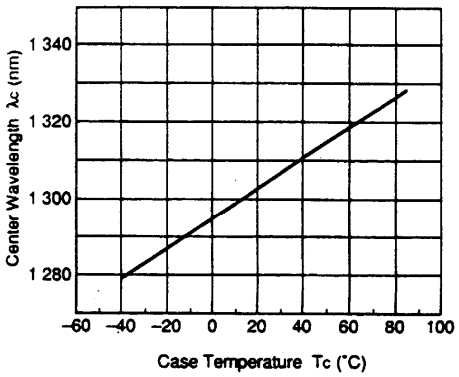
PIN No.	FUNCTION
1	NC
2	NC
3	LD Cathode (LD-)
4	NC
5	NC
6	LD Anode (LD+), PD-
7	Monitor PD Anode (PD+)
8	NC

Typical Characteristics (25℃)

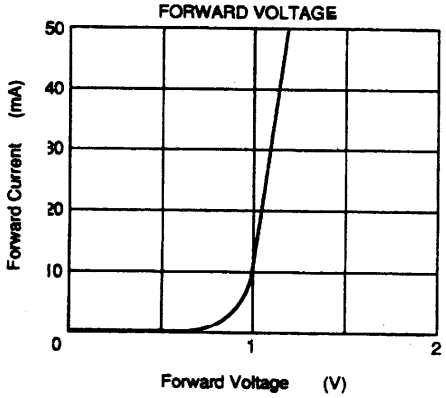
LONGITUDINAL MODE



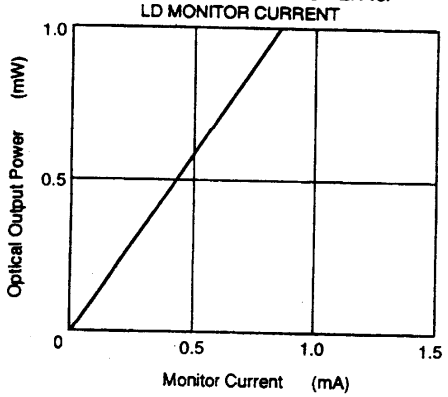
CENTER WAVELENGTH vs.
CASE TEMPERATURE



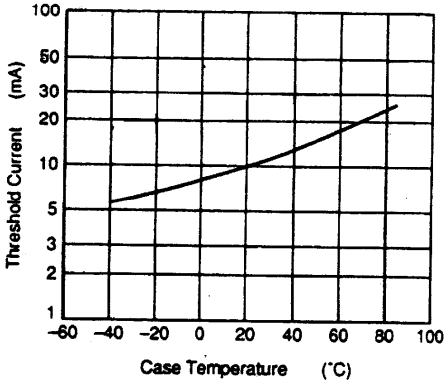
FORWARD CURRENT vs.
FORWARD VOLTAGE



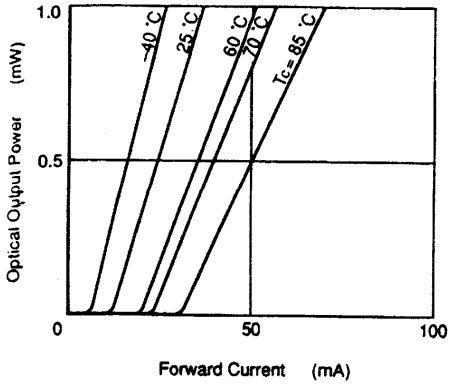
OPTICAL OUTPUT POWER vs.
LD MONITOR CURRENT



THRESHOLD CURRENT
vs. CASE TEMPERATURE



OPTICAL OUTPUT POWER vs.
FORWARD CURRENT



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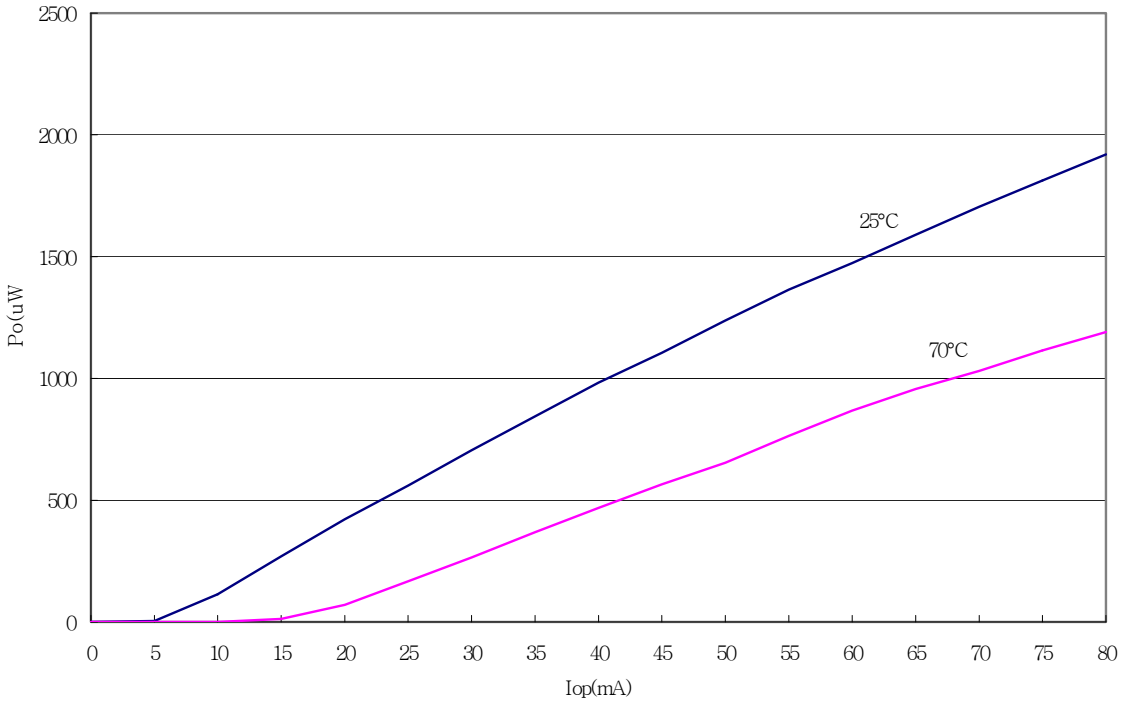
1310nm FP LD
Fiber-coupled Power vs. Drive Current