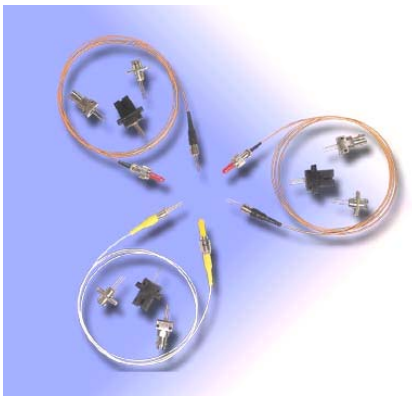
# 850nm VCSEL SM Module



## Features

- High coupled power
- Peak wavelength 850nm
- Low threshold current 3mA
- High speed $t_r$, $t_f$ < 0.3ns
- Operating temperature range 0°C to 70°C
- Hermetically sealed To -46 package in pigtailed or receptacle housing with FC, ST or SC connector



## Applications

- Gigabit Ethernet

## Specifications (T=25 °C)

| Parameter | Symbol | Test Conditions | Min | Typical | Max | Units |
|---|---|---|---|---|---|---|
| Peak wavelength | λ | $I_{op}$=12mA | 830 | 850 | 860 | nm |
| Spectral width FWHN | Δλ | $P_0$ | - | - | 0.85 | nm |
| Threshold current | $I_{th}$ | - | - | 3 | 6 | mA |
| Threshold current temperature variation (0 to 70°C) | - | - | -1 | - | 1 | mA |
| Coupled power (9/125μm fiber) | $P_0$ | 12mA, 25-C | | | | |
| -1 | | | 50 | - | - | uW |
| -2 | | | 150 | 200 | - | uW |
| Slope efficiency | SE | $P_0$ | - | 0.25 | - | mW/mA |
| Slope efficiency temperature dependence | SE | $P_0$ | - | -0.15 | - | %/°C |
| Monitor Current (PD) | $I_m$ | $P_0$ | 0.03 | 0.1 | - | mA |
| Forward voltage | $V_f$ | $P_0$ | 1.7 | 1.9 | 2.2 | V |
| Series Resistance | $R_s$ | $P_0$ | - | 30 | - | Ω |
| Tracking Error | $E_t$ | -40 to 85 °C | - | ±1.0 | - | dB |

## Absolute Maximum Ratings

| Parameter | Symbol | Min. | Max. | Unit |
|---|---|---|---|---|
| Continuous forward current (LD) | $I_{op}$ | - | 15 | mA |
| Continuous reverse voltage (LD) | $V_{RL}$ | - | 10 | V |
| Operating temperature | $T_O$ | 0 | 85 | °C |
| Storage temperature | $T_{stg}$ | -40 | 100 | °C |
| Lead soldering temperature (10 sec) | $T_L$ | - | 260 | °C |

## Ordering Information

Fiber length
R0 for receptacle
PG for pigtail 100cm

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

Flange type
B for Board Mount
P for Panel Mount
U for UP Mount
S for Sugar Cube
X for None

SNS-V D 8 5 □□ S1 □□ □ □ -1

S1=9/125um fiber

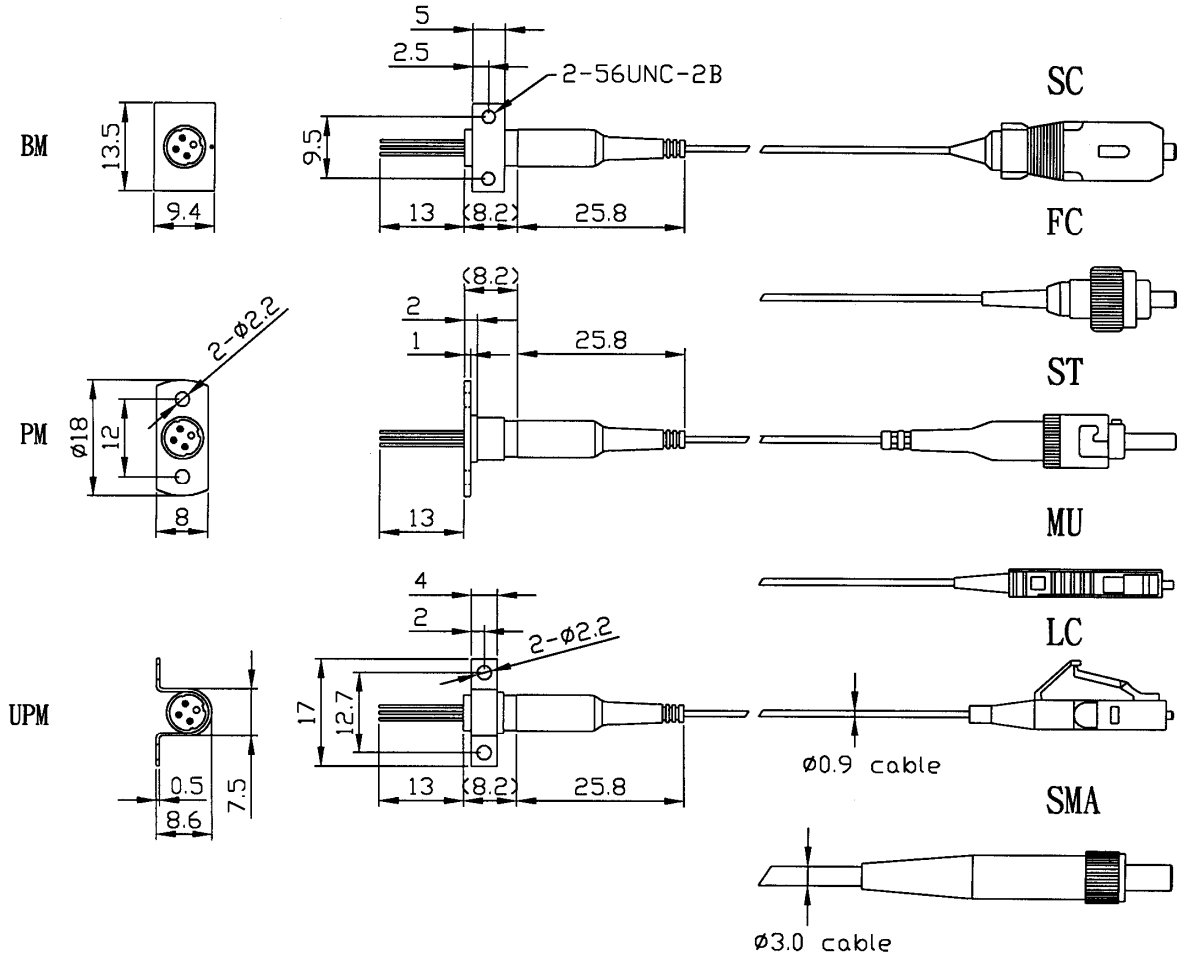
Receptacle: X
Pigtail: P for PC
A for APC

1= Output power

## Pin Connections

## Dimension

Pigtail Type



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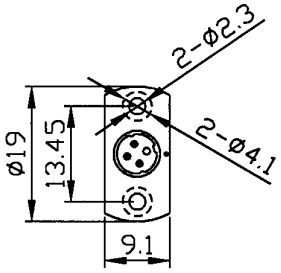
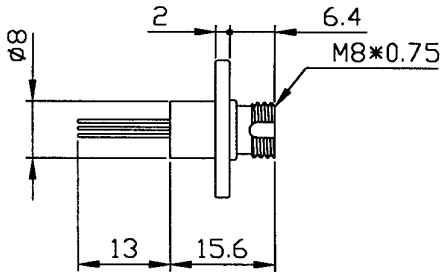
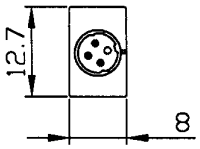
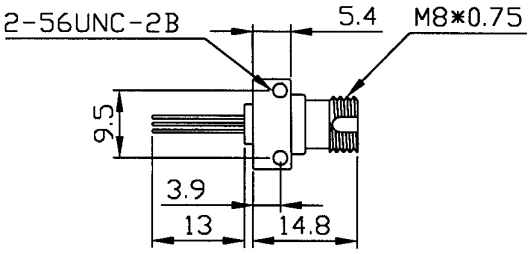
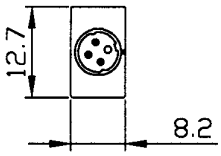
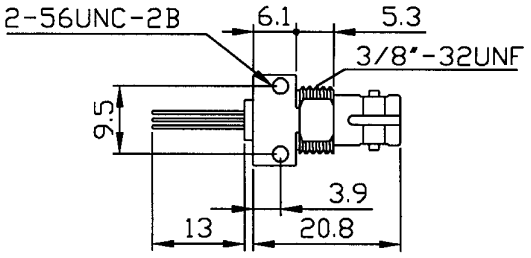
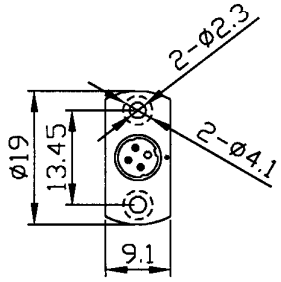
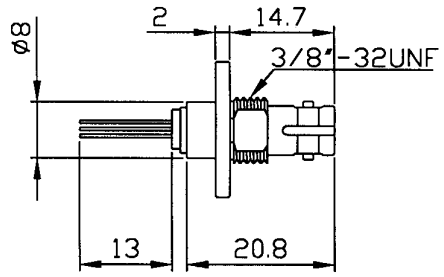
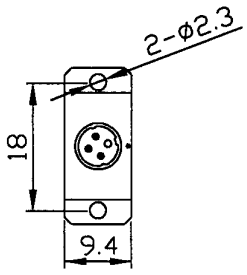
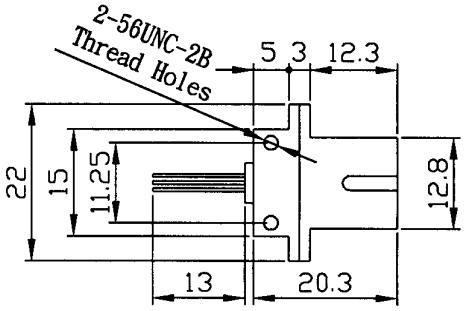
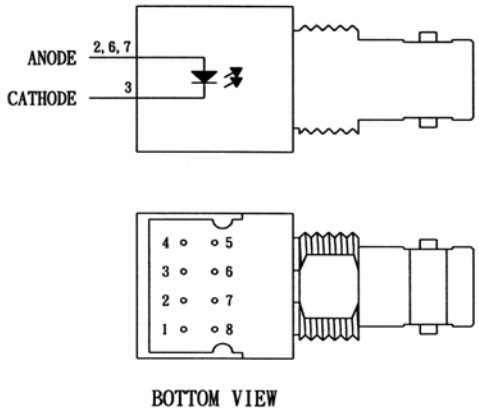
Receptacle

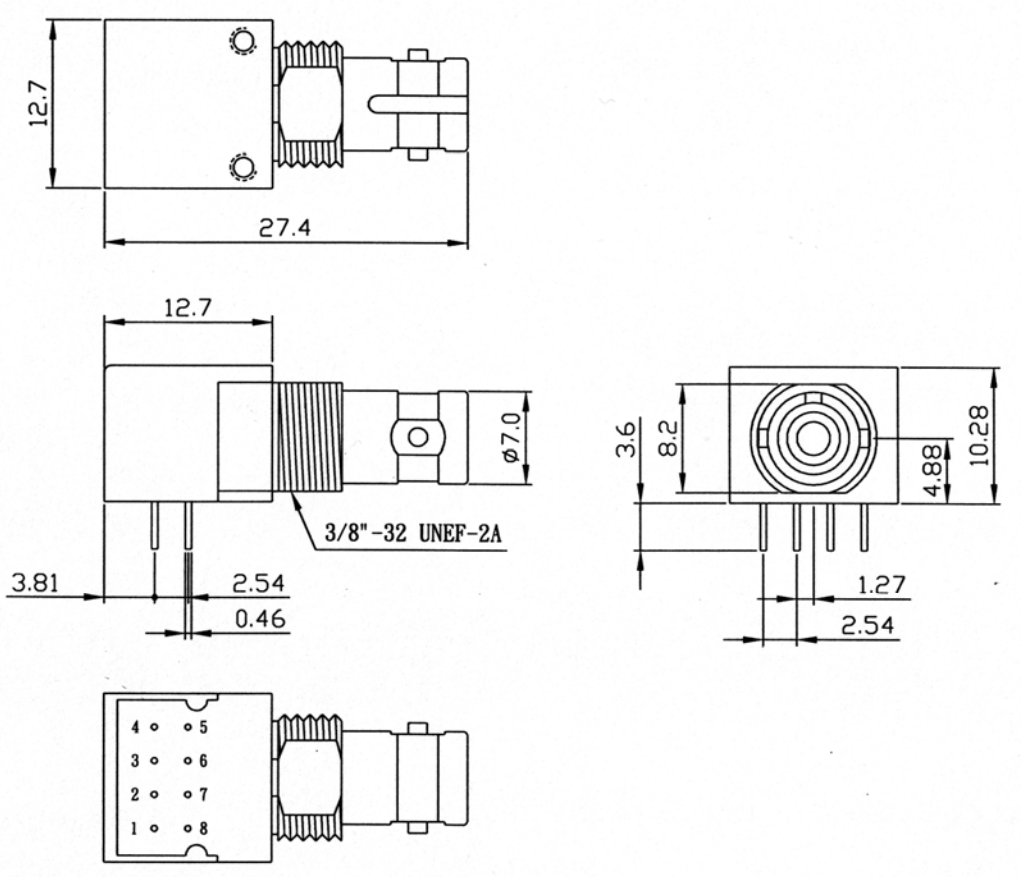
| Type | | |
|---|---|---|
| FC-PM |  |  |
| FC-BM |  |  |
| ST-BM |  |  |
| ST-PM |  |  |
| SC |  |  |

## Sugar Cube

### Pin Connections (Type B)

| PIN No. | FUNCTION |
|---|---|
| 1 | NC |
| 2 | Anode |
| 3 | Cathode |
| 4 | NC |
| 5 | NC |
| 6 | Anode |
| 7 | Anode |
| 8 | NC |




### Dimension (ST Receptacle) Unit mm