

PRELIMINARY



OPTOELECTRONICS  
FU-016SLD-2

## 0.78μm Connectorized LD Module for Singlemode Fiber

### GENERAL

FU-016SLD-2 has been developed for coupling a singlemode optical fiber and a 0.78μm wavelength AlGaAs LD (Laser diode).

This module is the optimum light source for use in medium haul digital optical communication systems.

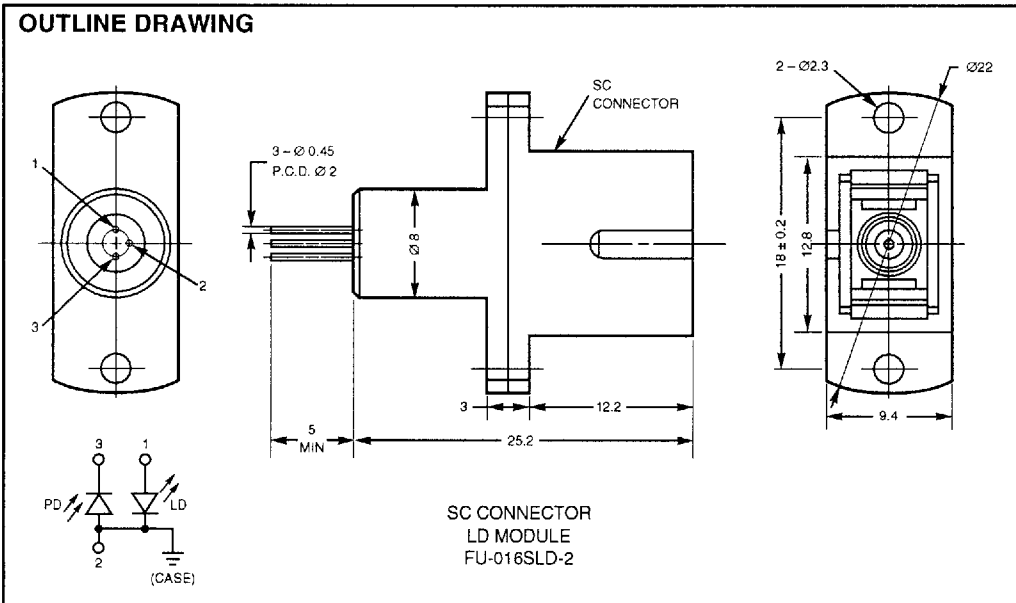
### FEATURES

- Connectorized package for SC connector
- Emission wavelength is in 0.78μm band
- Multi-mode oscillation
- With photodiode for optical output monitor

### ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = 25°C)

Symbol	Items	Conditions	Ratings	Unit	
P <sub>F</sub>	Optical output power from fiber end (Note 1)	Laser diode	CW	1	mW
V <sub>RL</sub>	Reverse voltage		—	2	V
V <sub>RD</sub>	Reverse voltage	Photodiode for monitoring	—	15	V
I <sub>FD</sub>	Forward current		—	10	mA
T <sub>c</sub>	Operating case temperature	—	-20 ~ 60	°C	
T <sub>stg</sub>	Storage temperature	—	-40 ~ 70	°C	

Note 1: Measured with singlemode fiber master plug (mode field diameter = 10 ± 1μm, ferrule diameter = 2.499 ± 0.0005μm, eccentricity core/ferrule ≤ 0.5μm)



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**CHARACTERISTICS** ( $T_C = 25^\circ\text{C}$ , unless otherwise noted)

Symbol	Items	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
$I_{th}$	Threshold current	CW	—	45	70	mA
$I_{OP}$	Operating current	CW	—	60	85	mA
$V_{OP}$	Operating voltage	CW, $I_F = I_{OP}$ (Note 1)	—	1.8	2.3	V
$P_F$	Optical output power from fiber end (Note 2)	CW, $I_F = I_{OP}$	0.25	0.5	—	mW
$\lambda_p$	Peak wavelength	CW, $I_F = I_{OP}$	765	780	800	nm
$t_r, t_f$	Rise and fall time	$I_B = I_{th}$ , $I_{Fpeak} = I_{OP}$ , 10~90% (Note 3,4)	—	0.5	—	ns
$E_r$	Tracking error (Note 5)	$T_C = -20 \sim 60^\circ\text{C}$ , APC	—	0.5	—	dB
$\eta$	Differential efficiency (Note 2)	—	—	—	—	W/A
$I_{mon}$	Monitor current	CW, $I_F = I_{OP}$ , $V_R = 5V$	0.1	0.5	—	mA
$I_d$	Dark current (Photodiode)	$V_R = 5V$	—	—	1	$\mu\text{A}$
$C_t$	Capacitance (Photodiode)	$V_{RD} = 5V$ , $f = 1\text{MHz}$	—	7	—	pF
—	Optical connector type	—	SC			—

Note 1:  $I_F$  = Forward current (LD)

Note 2: Measured with singlemode fiber master plug (mode field diameter =  $10 \pm 1\mu\text{m}$ , ferrule diameter =  $2.499 \pm 0.0005\mu\text{m}$ , eccentricity core/ferrule  $\leq 0.05\mu\text{m}$ )

Note 3:  $I_B$  = Bias current (LD)

Note 4:  $I_{Fpeak}$  = Peak forward current

Note 5:  $E_r = \text{MAX} \left| 10 \cdot \log \frac{P_F}{P_F(25^\circ\text{C})} \right|$