

MITSUBISHI (OPTICAL DEVICES)  
**FU-627SLD-F1M54**

1.55  $\mu\text{m}$  LD MODULE WITH SINGLEMODE FIBER PIGTAIL

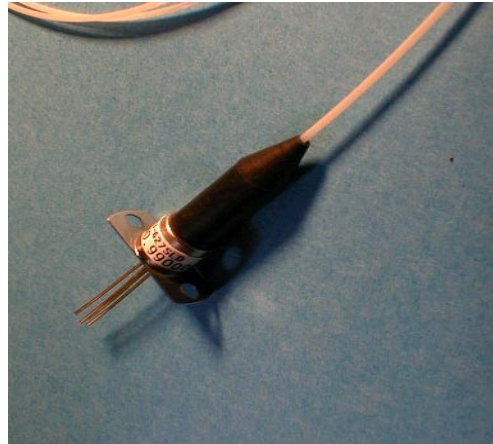
**DESCRIPTION**

Module type FU-627SLD-F1M54 has been developed for coupling a singlemode optical fiber and a 1.55 $\mu\text{m}$  wavelength InGaAsP LD (Laser diode).

FU-627SLD-F1M54 is suitable to light source for measuring instruments(especially,OTDR).

**FEATURES**

- High optical output power
  - Emission wavelength is in 1.55 $\mu\text{m}$  band
  - MQW\* active layer
  - FSBH\*\* structure fabricated by all MOCVD process
- \*Multiple quantum well  
 \*\*Facet selective-growth buried heterostructure



**APPLICATION**

OTDR

**ABSOLUTE MAXIMUM RATINGS (Tc=25°C)**

Parameter		Symbol	Conditions	Rating	Unit
Laser diode	Reverse voltage	Vrl	-	2	V
	Forward current	Ifl	Pulse(Note 1)	300	mA
Photodiode for monitoring	Reverse voltage	Vrd	-	15	V
	Forward current	Ild	-	2	mW
Operating case temperature		Tc	-	0~+60	°C
Storage temperature		Tstg	-	-40~+70	°C

Note 1. Pulse condition : Pulse width $\leq$ 10 $\mu\text{s}$ ,Duty ratio $\leq$ 1%

MITSUBISHI (OPTICAL DEVICES)  
**FU-627SLD-F1M54**

1.55 μm LD MODULE WITH SINGLEMODE FIBER PIGTAIL

**ELECTRICAL/OPTICAL CHARACTERISTICS**

Parameter	Symbol	Test Conditions (Note 2)	Limits			Unit
			Min.	Typ.	Max.	
Threshold current	I <sub>thp</sub>	Pulse(Note 1), T <sub>c</sub> =25°C	-	10	30	mA
Operating current	I <sub>opp</sub>	Pulse(Note 1), T <sub>c</sub> =25°C	-	250	280	mA
Operating Voltage	V <sub>opp</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =25°C	-	-	3.5	V
Optical output power from fiber end	P <sub>fp</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =25°C	15	-	-	mW
		Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =60°C	7.5	-	-	
Output power variation over temperature	ΔP <sub>fp</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =0~60°C	-3	-	-3	dB
Center wavelength (Note 4)	λ <sub>cp</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =25°C	1530	1550	1570	nm
		Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =0~60°C	1514	-	1595	
Spectral width(RMS) (Note 4)	Δλ <sub>p</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =25°C	-	-	10	nm
Pulse droop (Note 5)	ΔP <sub>f</sub>	Pulse(Note 1), I <sub>f</sub> =I <sub>opp</sub> , T <sub>c</sub> =25°C	-	-	20	%
Rise and fall times	t <sub>r</sub> , t <sub>f</sub>	I <sub>b</sub> =I <sub>th</sub> , 10~90%(Note 3) , T <sub>c</sub> =25°C	-	0.5	2	ns

Note 1. Pulse condition : Pulse width≤10μs, Duty ratio≤1%

Note 2. I<sub>f</sub> : Forward current(LD)

Note 3. I<sub>b</sub> : Bias current(LD)

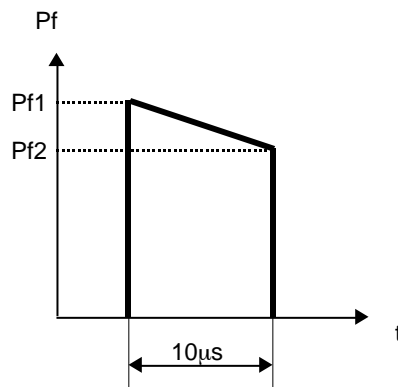
Note 4.  $\lambda_{cp} = (\sum a_i * \lambda_i) / \sum a_i$

$$\Delta\lambda_p = ((\sum a_i * (\lambda_i - \lambda_c)^2) / \sum a_i)^{1/2}$$

Where  $a_i \geq a_p \times 0.01$

a<sub>i</sub>: Relative intensity of laser spectral emission modes

a<sub>p</sub>: Peak of laser spectral emission modes



**OPTICAL FIBER SPECIFICATION**

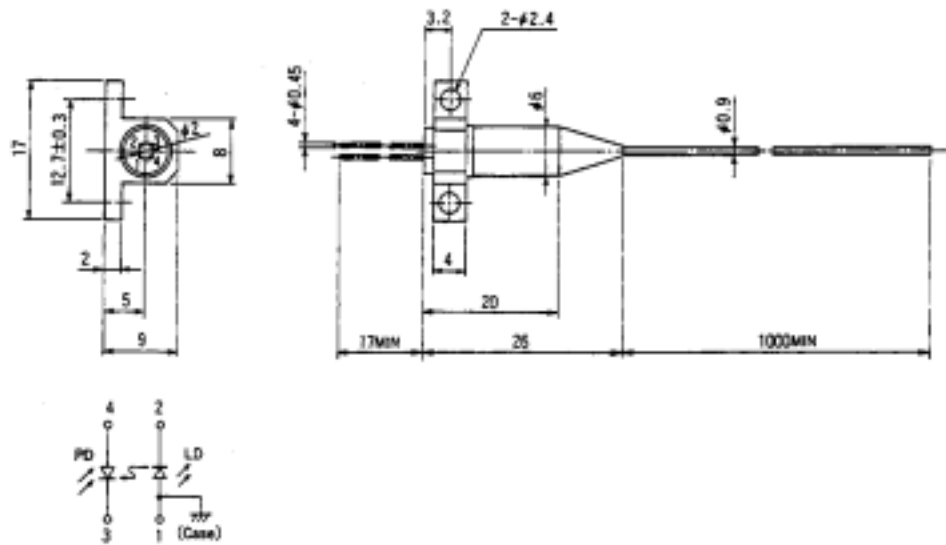
Parameter	Limits	Unit
Type	SM	-
Mode field dia.	9.5±1	μm
Cladding dia.	125±2	μm
Jacket dia.	0.9 typ.	mm

MITSUBISHI (OPTICAL DEVICES)  
**FU-627SLD-F1M54**

1.55  $\mu\text{m}$  LD MODULE WITH SINGLEMODE FIBER PIGTAIL

OUTLINE DIAGRAM

(Unit : mm)



FU-627SLD-F1M54