

MITSUBISHI (OPTICAL DEVICES)

FU-427SLD-F1M54

1.3 μm LD MODULE WITH SINGLEMODE FIBER PIGTAIL

DESCRIPTION

Module type FU-427SLD-F1M54 has been developed for coupling a singlemode optical fiber and a 1.3 μm wavelength InGaAsP LD (Laser diode).

FU-427SLD-F1M54 is suitable to light source for measuring instruments(especially,OTDR).

FEATURES

- High optical output power
 - Emission wavelength is in 1.3 μm 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	If1	Pulse(Note 1)	300	mA
Photodiode for monitoring	Reverse voltage	Vrd	-	15	V
	Forward current	Ifd	-	2	mW
Operating case temperature		Tc	-	0~+60	°C
Storage temperature		Tstg	-	-40~+70	°C

Note 1. Pulse condition : Pulse width $\leq$ 10 μs ,Duty ratio $\leq$ 1%

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ELECTRICAL/OPTICAL CHARACTERISTICS

Parameter	Symbol	Test Conditions (Note 2)	Limits			Unit
			Min.	Typ.	Max.	
Threshold current	I _{thp}	Pulse(Note 1), T _c =25°C	-	7	15	mA
Operating current	I _{opp}	Pulse(Note 1), T _c =25°C	-	200	250	mA
Operating Voltage	V _{opp}	Pulse(Note 1), I _f =I _{opp} , T _c =25°C	-	-	3.5	V
Optical output power from fiber end	P _{fp}	Pulse(Note 1), I _f =I _{opp} , T _c =25°C	20	-	-	mW
		Pulse(Note 1), I _f =I _{opp} , T _c =60°C	10	-	-	
Output power variation over temperature	ΔP _{fp}	Pulse(Note 1), I _f =I _{opp} , T _c =0~60°C	-3	-	-3	dB
Center wavelength (Note 4)	λ _{cp}	Pulse(Note 1), I _f =I _{opp} , T _c =25°C	1290	1310	1330	nm
		Pulse(Note 1), I _f =I _{opp} , T _c =0~60°C	1276	-	1352	
Spectral width(RMS) (Note 4)	Δλ _p	Pulse(Note 1), I _f =I _{opp} , T _c =25°C	-	-	10	nm
Pulse droop (Note 5)	ΔP _f	Pulse(Note 1), I _f =I _{opp} , T _c =25°C	-	-	20	%
Rise and fall times	t _r , t _f	I _b =I _{th} , 10~90%(Note 3) , T _c =25°C	-	0.5	2	ns

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

Note 2. I_f : Forward current(LD)

Note 3. I_b : Bias current(LD)

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

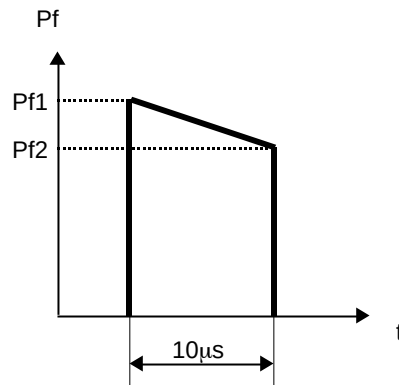
$$\Delta\lambda_p = ((\sum a_i \cdot (\lambda_i - \lambda_c)^2) / \sum a_i)^{1/2}$$

Where $a_i \geq a_p \times 0.01$

a_i: Relative intensity of laser spectral emission modes

a_p: Peak of laser spectral emission modes

Note 5. $\Delta P_{fp} = (P_{f1} - P_{f2}) / P_{f1} \times 100$



OPTICAL FIBER SPECIFICATION

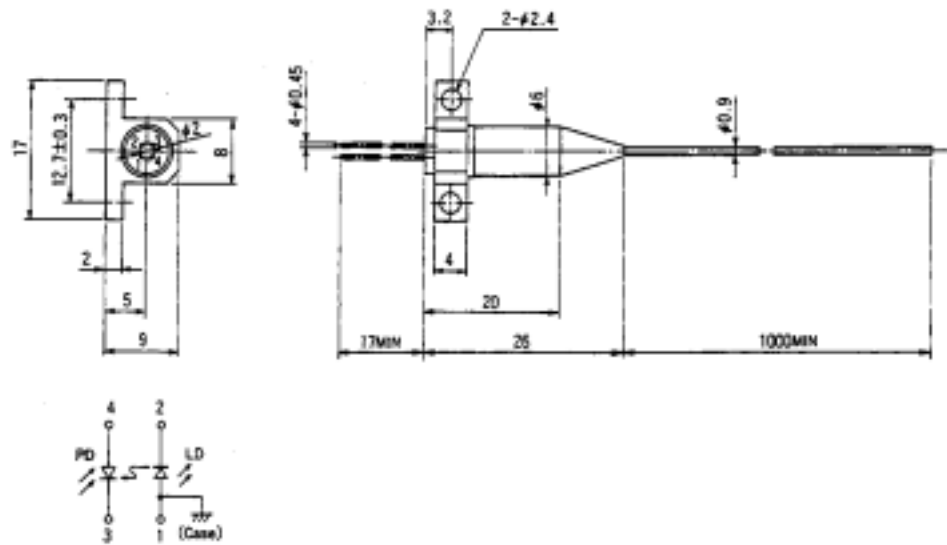
Parameter	Limits	Unit
Type	SM	-
Mode field dia.	9.5±1	μm
Cladding dia.	125±2	μm
Jacket dia.	0.9 typ.	mm

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OUTLINE DIAGRAM

(Unit : mm)



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