

MITSUBISHI (OPTICAL DEVICES)
FU-436SDF-F1M1

1.3 μm DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

DESCRIPTION

Module type FU-436SDF-F1M1 has been developed for coupling a singlemode optical fiber and a 1.3 μm wavelength InGaAsP DFB LD (Laser diode). FU-436SDF-F1M1 is suitable to light source for high-speed short haul and long haul digital optical communication systems.

FEATURES

- MQW-DFB laser diode module
- High-speed response
- Emission wavelength is in 1.3 μm band
- Built-in optical isolator

APPLICATION

High-speed short haul and long haul digital optical communication systems.



ABSOLUTE MAXIMUM RATINGS ($T_c=25^\circ\text{C}$)

Parameter		Symbol	Conditions	Rating	Unit
Laser diode	Optical output power from fiber end	Pf	CW	5	mW
	Reverse voltage	Vrl	-	2	V
Photodiode for monitoring	Reverse voltage	Vrd	-	20	V
	Forward current	lfd	-	2	mA
Operating case temperature		Tc	-	0~+85	$^\circ\text{C}$
Storage temperature		Tstg	-	-40~+85	$^\circ\text{C}$

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OPTICAL CHARACTERISTICS($T_c=0\sim 85^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Threshold Current	I _{th}	CW, $T_c=25^\circ\text{C}$	-	-	25	mA
		CW	2	-	50	
Operating Current	I _{op}	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	-	-	90	mA
Modulation Current	I _{mod}	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	8	-	65	mA
Operating Voltage	V _{op}	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	-	1.2	1.7	V
Threshold Output Power	P _{th}	CW, I _f =I _{th} (Note 1)	-	-	0.15	mW
Differential Efficiency	η	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	0.04	-	-	mW/mA
Central Wavelength	λ_c	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	1290	1310	1330	nm
Spectral Width (-20dB)	$\Delta\lambda$ (-20dB)	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	-	-	1.0	nm
Side Mode Suppression Ratio	SMSR	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	30	-	-	dB
Rise and Fall Time	t _r , t _f	P _f peak=4mW, I _b =I _{th} (Note 2) 10-90%(Note 1)	-	-	1	ns
Tracking Error (Note 3)	E _r	CW, APC, I _m (P _f (25 $^\circ\text{C}$)=4mW)	-	0.4	1.0	dB
Monitor Current	I _{mon}	CW, P _f =4mW, V _{rd} =5V	0.1	-	-	mA
Dark Current (Photodiode)	I _d	V _{rd} =5V, $T_c=25^\circ\text{C}$	-	0.01	1	μA
Capacitance (Photodiode)	C _t	V _{rd} =5V, f=1MHz	-	-	25	pF

Note 1. I_f : Forward current(LD)

Note 2. I_b : Bias current(LD)

Note 3. E_r=MAX | 10 \times log(P_f(T_c)/P_f(25 $^\circ\text{C}$) |

OPTICAL FIBER SPECIFICATION

Parameter	Limits	Unit
Type	Single Mode	-
Mode field dia.	9.5 \pm 1	μm
Cladding dia.	125 \pm 2	μm
Jacket dia.	0.9typ.	mm
Connector type	FC/PC	-

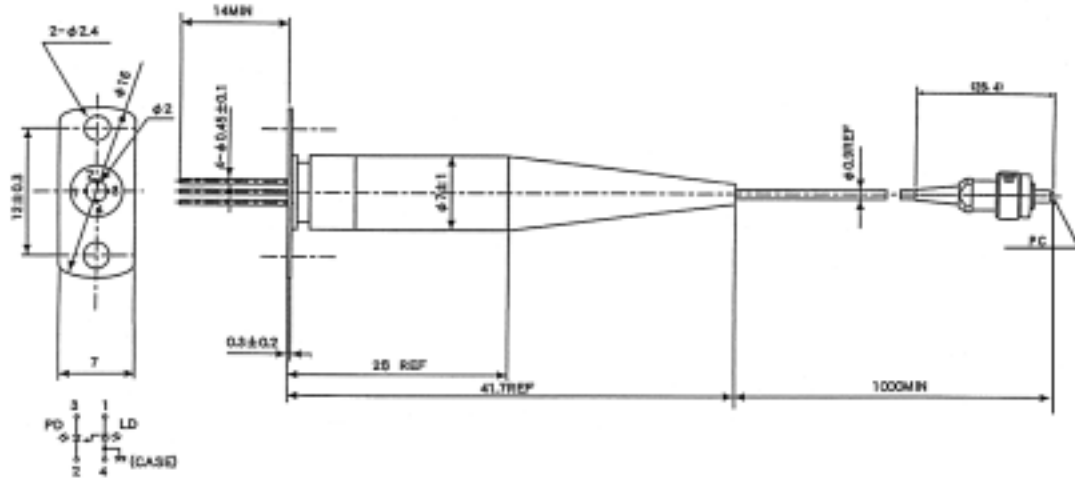
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OUTLINE DIAGRAM

(Unit : mm)

NOTE. TOLERANCE UNLESS NOTED ± 0.5



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