

APPROVED	APPROVED	CHARGED
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CUSTOMER	APPROVED	APPROVED

SPECIFICATION PROPOSAL FOR

FU-636SDF-EV1M68	(1470nm \pm 3nm)
FU-636SDF-EV1M69	(1490nm \pm 3nm)
FU-636SDF-EV1M70	(1510nm \pm 3nm)
FU-636SDF-EV1M71	(1530nm \pm 3nm)
FU-636SDF-EV1M72	(1550nm \pm 3nm)
FU-636SDF-EV1M73	(1570nm \pm 3nm)
FU-636SDF-EV1M74	(1590nm \pm 3nm)
FU-636SDF-EV1M75	(1610nm \pm 3nm)

Uncooled DFB LD module with Isolator
(Pf=2.0mW, Tc=0 to 75°C)

A	B	C	D
	X		
Date		Approved	
'01..9.07		Y.Hozumi	

MITSUBISHI ELECTRIC CORPORATION

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MITSUBISHI (OPTICAL DEVICES)

FU-636SDF-EV1M68_75

1.47 to 1.61 μ m DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

DESCRIPTION

Module type FU-636SDF-EV1M68 to 75 has been developed for coupling a singlemode optical fiber and a 1.47 / 1.49 / 1.51 / 1.53 / 1.55 / 1.57 / 1.59 / 1.61 μ m wavelength InGaAsP DFB LD (Laser diode). FU-636SDF-E1M68 to 75 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 1.47 to 1.61 μ m band
- Built-in optical isolator

APPLICATION

WDM systems

ABSOLUTE MAXIMUM RATINGS (T_c=25°C)

Parameter		Symbol	Conditions	Rating	Unit
Laser diode	Optical output power from fiber end	P ₀	CW	3	mW
	Reverse voltage	V _{rl}	-	2	V
Photodiode for monitoring	Reverse voltage	V _{rd}	-	15	V
	Forward current	I _{fd}	-	2	mA
Operating case temperature		T _c	-	0~+75	°C
Storage temperature		T _{stg}	-	-40~+85	°C

MITSUBISHI (OPTICAL DEVICES)

FU-636SDF-EV1M68_75**1.47 to 1.61 μ m DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL****OPTICAL CHARACTERISTICS**(T_c=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Fiber output power	Pf	CW	2.0			mW
Threshold Current	I _{th}	CW	-	12	25	mA
Threshold Output Power	P _{th}	CW, I _f =I _{th} (Note1)	-	-	0.1	mW
Operating Current	I _{op}	CW, P _f =2mW	-	-	60	mA
Modulation Current	I _{mod}	CW, P _f =2mW	-	-	40	mA
Operating Voltage	V _{op}	CW, P _f =2mW	-	1.1	1.7	V
Differential Efficiency	η	CW	-	0.12	-	mW/mA
Central Wavelength	λ_c	CW, P _f =2mW	1467	1470	1473	nm
			1487	1490	1493	
			1507	1510	1513	
			1527	1530	1533	
			1547	1550	1553	
			1567	1570	1573	
			1587	1590	1593	
			1607	1610	1613	
Spectral Width (-20dB)	$\Delta\lambda$ (-20dB)	CW, P _f =2mW	-	-	1.0	nm
Side Mode Suppression Ratio	SMSR	CW, P _f =2mW	30	-	-	dB
Rise and Fall Time	t _r , t _f	P _f peak=2mW I _b =I _{th} (Note 2) 10-90%	-	-	1.0	ns
Tracking Error (Note 3)	E _r	CW, T _c =0 to 75°C I _m (P _f (25°C)=2mW)	-	0.4	1.0	dB
Monitor Current	I _{mon}	CW, P _f =2mW, V _{rd} =5V	0.05	-	-	mA
Dark Current (Photodiode)	I _d	V _{rd} =5V	-	0.01	1	μ A
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°C))|**OPTICAL FIBER SPECIFICATION**

Parameter	Limits	Unit
Type	Single Mode	---
Fiber length (Fig.1)	L=1000 to 1200	mm
Mode field dia.	9.5 \pm 1	μ m
Cladding dia.	125 \pm 2	μ m
Jacket dia.	0.9typ.	mm
Connector type	FC/PC	---

MITSUBISHI (OPTICAL DEVICES)

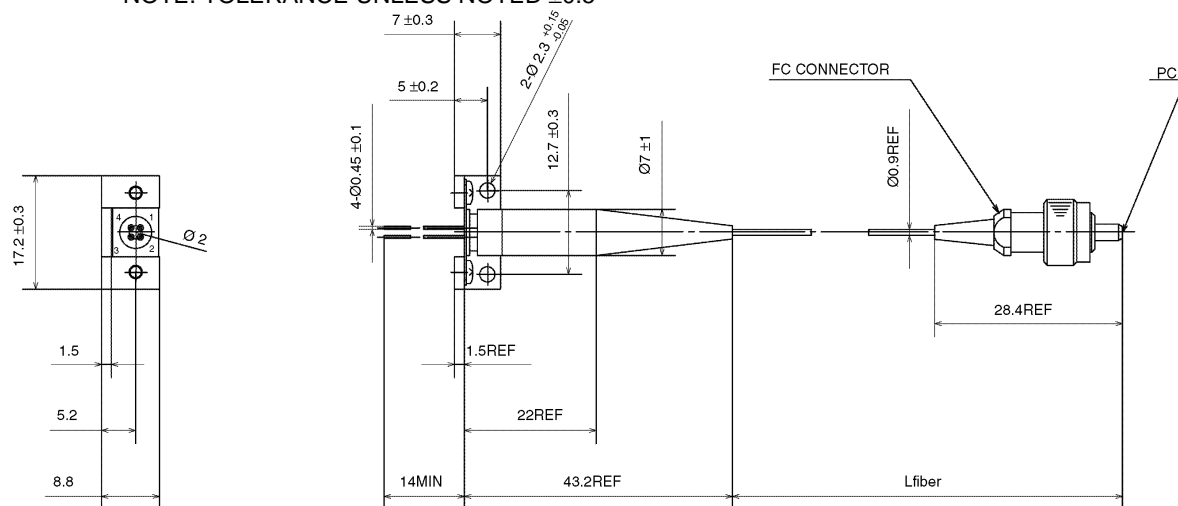
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1.47 to 1.61μm DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

OUTLINE DIAGRAM

(Unit : mm)

NOTE. TOLERANCE UNLESS NOTED ±0.5



PIN	FUNCTION
1	PD ANODE
2	PD CATHODE
3	LD CATHODE
4	LD ANODE , GND

FU-636SDF-EV1M68_75