

MITSUBISHI (OPTICAL DEVICES)
FU-427SDF

1.3 μm DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

DESCRIPTION

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



APPLICATION

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

ABSOLUTE MAXIMUM RATINGS (Tc=25°C)

Parameter		Symbol	Conditions	Rating	Unit
Laser diode	Optical output power from fiber end	Pf	CW	3	mW
	Reverse voltage	Vrl	-	2	V
Photodiode for monitoring	Reverse voltage	Vrd	-	15	V
	Forward current	Ifd	-	2	mA
Operating case temperature		Tc	-	0~+85	°C
Storage temperature		Tstg	-	-40~+85	°C

MITSUBISHI (OPTICAL DEVICES)
FU-427SDF

1.3 μm DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Threshold current	I _{th}	CW	-	15	40	mA
Operating current	I _{op}	CW	-	38	90	mA
Operating Voltage	V _{op}	CW, I _f =I _{op} (Note 1)	-	1.2	1.6	V
Optical output power from fiber end	P _f	CW, I _f =I _{op}	2	-	-	mW
Center wavelength	λ_c	CW, I _f =I _{op}	1290	1310	1330	nm
Side mode suppression ratio	SMSR	CW, I _f =I _{op}	30	35	-	dB
Rise and fall times	t _r , t _f	I _b =I _{th} , 10~90% (Note 2)	-	0.3	-	ns
Tracking error (Note 3)	E _r	T _c =0~+85°C, APC	-	0.5	-	dB
Differential efficiency	η	-	-	0.08	-	mW/mA
Monitor current	I _{mon}	CW, I _f =I _{op} , V _{rd} =5V	0.1	0.5	-	mA
Dark current (Photodiode)	I _d	V _{RD} =5V	-	0.1	0.5	μA
Capacitance (Photodiode)	C _t	V _{RD} =5V, f=1MHz	-	-	20	pF

Note 1. I_f : Forward current (LD)

2. I_b : Bias current (LD)

3. E_r=MAX|10×log(P_f(T_c)/P_f(25°C))|

OPTICAL FIBER SPECIFICATION

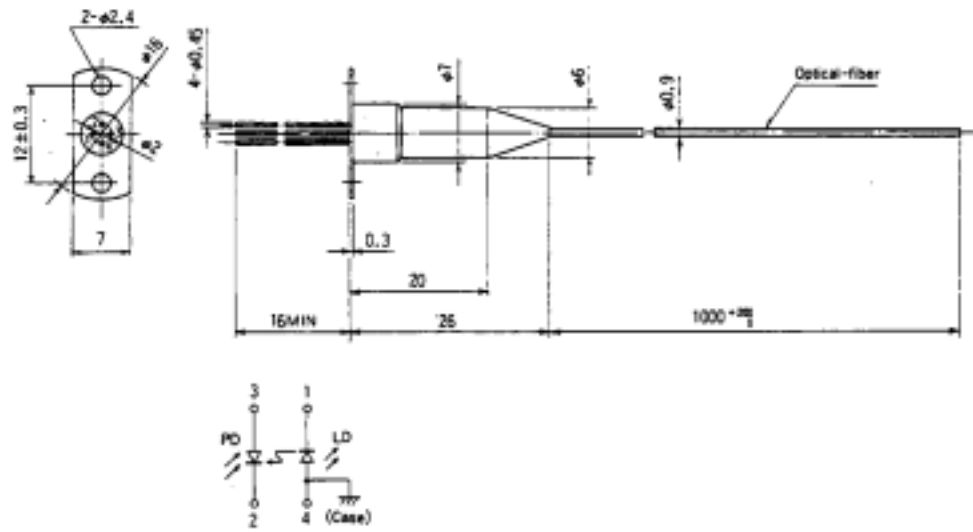
Parameter	Limits	Unit
Type	SM	-
Mode field dia.	9.5±1	μm
Cladding dia.	125±2	μm
Jacket dia.	0.9 typ.	mm

MITSUBISHI (OPTICAL DEVICES)
FU-427SDF

1.3 μm DFB-LD MODULE WITH SINGLEMODE FIBER PIGTAIL

OUTLINE DIAGRAM

(Unit : mm)



FU-427SDF