

MITSUBISHI (OPTICAL DEVICES)  
**FU-427SHL-8M22**

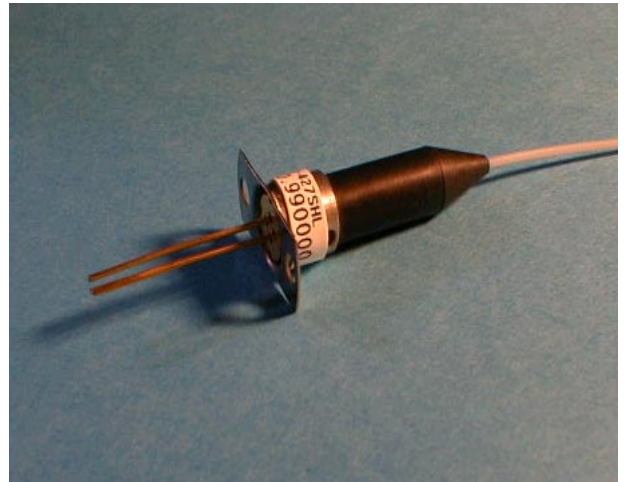
1.3  $\mu\text{m}$  LD MODULE WITH SINGLEMODE FIBER PIGTAIL

**DESCRIPTION**

Module type FU-427SHL-8M22 has been developed for coupling a singlemode optical fiber and a 1.3  $\mu\text{m}$  wavelength InGaAsP LD (Laser diode). FU-427SHL-8M22 is suitable to light source for measuring instruments(especially, OTDR).

**FEATURES**

- High optical output power
  - Emission wavelength is in 1.3 $\mu\text{m}$  band
  - MQW\* active layer
  - FSBH\*\* structure fabricated by all MOCVD process
- \*Multiple quantum well  
\*\*Facet selective-growth buried heterostructure



**APPLICATION**

OTDR

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

Parameter		Symbol	Conditions	Rating	Unit
Laser diode	Reverse voltage	V <sub>rl</sub>	-	2	V
	Forward current	I <sub>fl</sub>	Pulse(Note 1)	1	A
Operating case temperature		T <sub>c</sub>	-	-20~+60	°C
Storage temperature		T <sub>stg</sub>	-	-40~+70	°C

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

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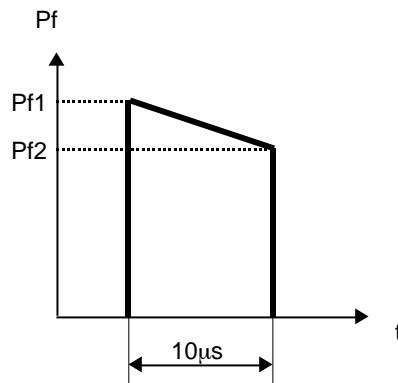
**ELECTRICAL/OPTICAL CHARACTERISTICS** ( $T_c=25^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Threshold current	$I_{th}$	-	-	20	50	mA
Operating current	$I_{op}$	Pulse (Note 1)	400	450	800	mA
Operating Voltage	$V_{op}$	$I_f=I_{op}$ , Pulse (Note 1)	-	-	5	V
Optical output power from fiber end	$P_f$	$I_f=I_{op}$ , Pulse (Note 1) $T_c=25^\circ\text{C}$	80	-	-	mW
		$I_f=I_{op}$ , Pulse (Note 1) $T_c=60^\circ\text{C}$	40			
Central wavelength	$\lambda_c$	$I_f=I_{op}$ , Pulse (Note 1)	1290	1310	1330	nm
Spectral width(RMS)	$\Delta\lambda$	$I_f=I_{op}$ , Pulse (Note 1)	-	-	10	nm
Pulse droop (Note 3)	$\Delta P_f$	$I_f=I_{op}$ , Pulse (Note 1)	-	-	20	%
Rise and fall times	$t_r, t_f$	$I_b=I_{th}, 10\sim 90\%$ (Note 2)	-	1	2	ns

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

2.  $I_b$  : Bias current (LD)

3.  $\Delta P_f = (P_{f1} - P_{f2}) / P_{f1} \times 100$



**OPTICAL FIBER SPECIFICATION**

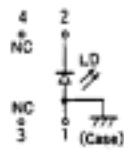
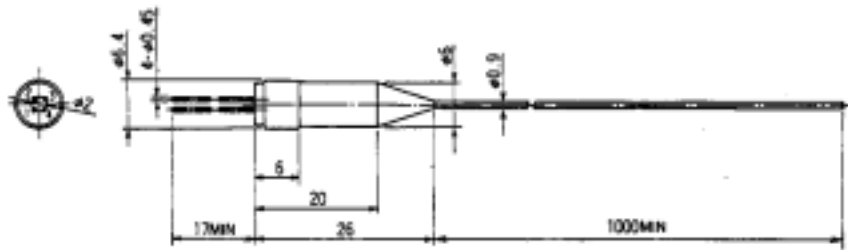
Parameter	Limits	Unit
Type	SM	-
Mode field dia.	$9.5 \pm 1$	$\mu\text{m}$
Cladding dia.	$125 \pm 2$	$\mu\text{m}$
Jacket dia.	0.9 typ.	mm

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OUTLINE DIAGRAM

(Unit : mm)



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