

MITSUBISHI (OPTICAL DEVICES)

# FU-39PD/FU-39SPD-M1

PD MODULE FOR LONG WAVELENGTH BAND

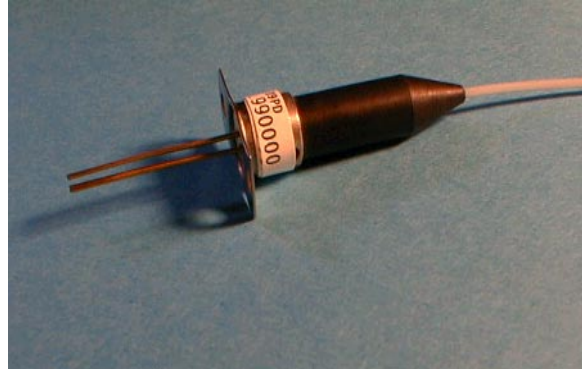
## DESCRIPTION

FU-39PD/FU-39SPD-M1 is detector module containing highly reliable InGaAs(pin photodiode) for long wavelength band (1~1.6 $\mu$ m) and high-speed response.

These module are used as detector for high-speed, long haul optical communication systems.

## FEATURES

- High-speed response ( $f_c=1.5$ GHz)
- Low dark current (1nA max)
- High-responsivity (0.8A/W)
- Easy handling



## APPLICATION

FitL,LAN

## ABSOLUTE MAXIMUM RATINGS (Tc=25°C)

Parameter	Symbol	Conditions	Rating	Unit
Reverse voltage	Vr	-	20	V
Reverse current	Ir	-	1	mA
Forward current	If	-	2	mA
Operating case temperature	Tc	-	-40~+85	°C
Storage temperature	Tstg	-	-40~+85	°C

## ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C, unless otherwise noted)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Detection range	-	-	1000	-	1600	nm
Responsivity (Note 1)	R	$\lambda=1300$ nm, Vr=5V	0.65	0.8	-	A/W
Dark current	Id	Vr=5V	-	-	1	nA
Cut-off frequency (-3dB)	fc	RI=50 $\Omega$ , Vr=5V	1	1.5	-	GHz
Capacitance	Ct	f=1MHz, Vr=5V	-	1	2	pF

Note 1. FU-39PD : Measured by GI type with core dia. 50 $\mu$ m and N.A.0.2 fiber.

FU-39SPD-M1 : Measured by single-mode 9.5/125 fiber.

## OPTICAL FIBER SPECIFICATION

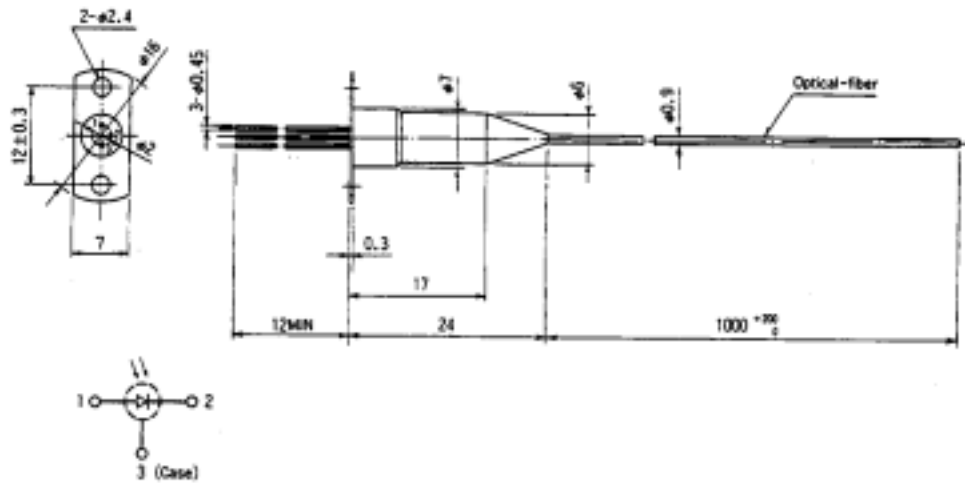
Parameter	Limits		Unit
	FU-39PD	FU-39SPD-M1	
Type	GI	SM	-
Core dia.	50 $\pm$ 1	-	$\mu$ m
Mode field dia.	-	9.5 $\pm$ 1	$\mu$ m
N.A.	0.2	-	-
Cladding dia.	125 $\pm$ 3	125 $\pm$ 2	$\mu$ m
Jacket dia.	0.9 typ.	0.9 typ.	mm

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OUTLINE DIAGRAM

(Unit : mm)



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