

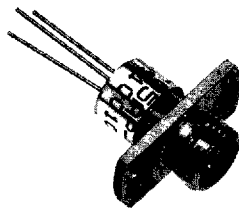
APD Module for Short Wavelength Band

FU-05AP-N and FU-25AP are detector modules containing highly reliable Si APD (Avalanche photodiode) with high-speed response.

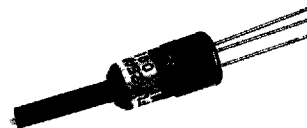
These modules are used as detector for high-speed optical communication systems.

FEATURES

- High-speed response ($f_c = 2\text{GHz}$)
- Low noise level
- Can be connected to optical fiber with high efficiency
- Compact package



FU-05AP-N

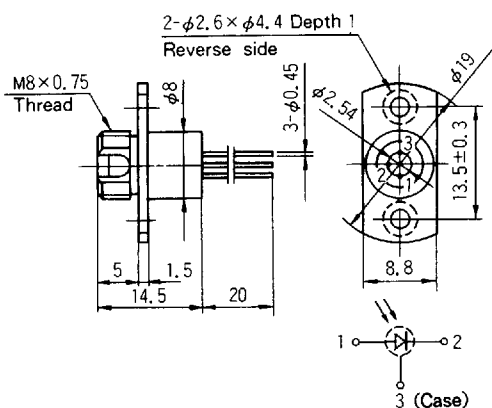


FU-25AP

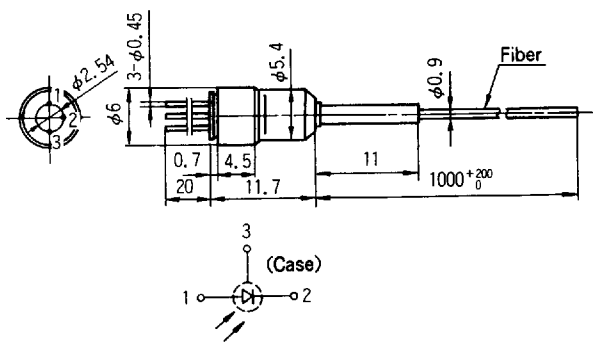
ABSOLUTE MAXIMUM RATINGS (Tc=25°C)

Items	Symbols	Conditions	Ratings		Units
			FU-05AP-N	FU-25AP	
Reverse current	I_R	$T_c \leq 70^\circ\text{C}$	200	200	μA
Forward current	I_F	$T_c \leq 70^\circ\text{C}$	10	10	mA
Operating case temperature	T_c	-	-20~70	-20~70	$^\circ\text{C}$
Storage temperature	T_{stg}	-	-40~70	-40~70	$^\circ\text{C}$

OUTLINE DRAWINGS Unit (mm)



FU-05AP-N



FU-25AP

FU-05AP-N, FU-25AP

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CHARACTERISTICS (T_c=25 °C, unless otherwise noted)

Items	Symbols	Conditions	FU-05AP-N			FU-25AP			Units
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Detection range	-	-	500~1000			500~1000			nm
Responsivity (Note 1)	R	$\lambda = 850\text{nm}, V_R = 50\text{V}$	0.33	0.4	-	0.33	0.4	-	A/W
Breakdown voltage	V _{BR}	I _D = 100 μ A	100	150	200	100	150	200	V
Temperature coefficient of breakdown voltage	β	-	-	0.12	-	-	0.12	-	%/°C
Dark current	I _D	V _R = 50V	-	0.3	1	-	0.3	1	nA
Noise equivalent power	NEP	$\lambda = 800\text{nm}$	-	1 × 10 ⁻¹⁴	-	-	1 × 10 ⁻¹⁴	-	W/ $\sqrt{\text{Hz}}$
Excess noise factor	F	M = 100 (Note 2)	-	M ^{0.25}	-	-	M ^{0.25}	-	-
Maximum multiplication rate	M _{max}	I _{po} = 10nA, R _L = 1k Ω	-	1000	-	-	1000	-	-
Cutoff frequency (-3dB)	f _c	M = 100, R _L = 50 Ω	-	2	-	-	2	-	GHz
Capacitance	C _t	V _R = 0.9V _{BR} , f = 1MHz	-	1.5	2	-	1.5	2	pF
Optical connector type (Note 3)	-	-	FC			-			-

Note 1) Fiber : GI type with core dia. 50 μ m and N.A. 0.2

Note 2) M. Multiplication rate

Note 3) FU-05AP-N only

FIBER PIGTAIL SPECIFICATIONS (FU-25AP only)

Items	Specifications	Units
Type	GI	-
Core dia.	50 ± 3	μ m
N.A.	0.2	-
Cladding dia.	125 ± 3	μ m
Jacket dia.	0.9	mm

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EXAMPLE OF CHARACTERISTICS

