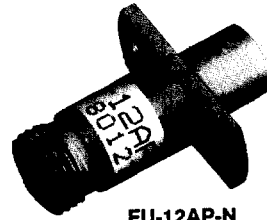


FU-12AP-N, FU-32AP

APD Module for Long Wavelength Band

FU-12AP-N and FU-32AP are detector module containing highly reliable Ge APD (Avalanche photodiode) for long wavelength band ($0.8 \sim 1.5 \mu\text{m}$) and has high-speed response.

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



FU-12AP-N

FEATURES

- High-responsivity
- High-speed response (1GHz typ.)
- Low capacitance
- Easy handling

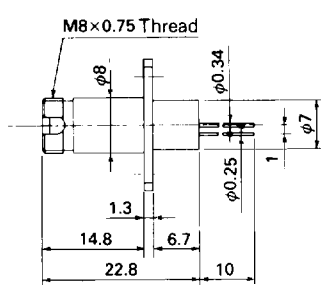


FU-32AP

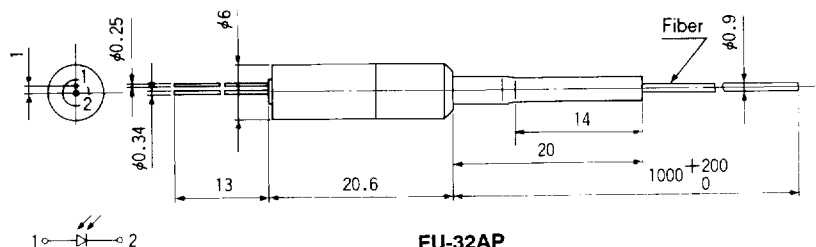
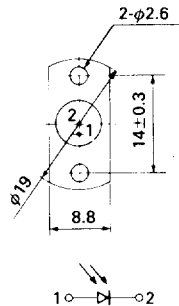
ABSOLUTE MAXIMUM RATINGS ($T_c=25^\circ\text{C}$)

Items	Symbols	Ratings		Units
		FU-12AP-N	FU-32AP	
Reverse current	I_r	1	1	mA
Forward current	I_f	100	100	mA
Operating case temperature	T_c	$-30 \sim 70$	$-30 \sim 70$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-40 \sim 70$	$-40 \sim 70$	$^\circ\text{C}$

OUTLINE DRAWINGS Unit (mm)



FU-12AP-N



FU-32AP

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

Items	Symbols	Conditions	FU-12AP-N			FU-32AP			Units
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Detection range	—	—	800~1500			800~1500			nm
Responsivity (Note 1)	R	$\lambda = 1300\text{nm}$, $V_R = 10\text{V}$	0.68	0.72	—	0.68	0.72	—	A/W
Breakdown voltage	V _{BR}	I _D = 100 μ A	25	30	40	25	30	40	V
Temperature coefficient of breakdown voltage (Note 2)	β	—	—	0.1	—	—	0.1	—	%/°C
Dark current	I _D	V _R = 0.9V _{BR}	—	0.3	0.5	—	0.3	0.5	μ A
Excess noise factor	F	$\lambda = 1300\text{nm}$, M = 10 I _{DO} = 2 μ A, B = 1MHz (Note 3)	—	M ^{0.95}	—	—	M ^{0.95}	—	—
Cutoff frequency (−3dB)	f _c	$\lambda = 1300\text{nm}$, M = 10, R _L = 50 Ω	800	1000	—	800	1000	—	MHz
Capacitance	C _i	V _R = 20V, f = 1MHz	—	2	2.5	—	2	2.5	pF
Optical connector type (Note 4)	—	—	FC			—			—

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

$$\text{Note 2) } \beta = \frac{V_{BR}(25^\circ\text{C} + \Delta T) - V_{BR}(25^\circ\text{C})}{V_{BR}(25^\circ\text{C}) \cdot \Delta T} \times 100 \text{ (\%/}^\circ\text{C)}$$

Note 3) M : Multiplication rate

Note 4) FU-12AP-N only

FIBER PIGTAIL SPECIFICATIONS

Items	Specifications	Units
Type	GI	—
Core dia.	50 $\pm$ 3	μ m
N.A.	0.2	—
Cladding dia.	125 $\pm$ 3	μ m
Jacket dia.	0.9	mm

EXAMPLE OF CHARACTERISTICS

