

*Preliminar***Features**

- High speed transimpedance amplifier
- Thermally compensated bias source
- Preset and programable magnification factor
- Easy operation

Applications

- Optical communications
- Range meter
- Optical measurement
- Weak light detection
- APD evaluation

**Structure**

Item	Symbol	Specification	Unit	Note
Photo detector	-	Si APD	V	Window: borosilicate glass
Active diameter	D	φ1.0	mm	
Dimensions (W x D x H)	-	61 x 61 x 22	mm	Excluding screws, rubber feet and connectors
Communication interface	-	USB 2.0	-	Micro USB B (female)
Output connector	-	SMA (female)	-	
Weight	-	72.5	g	

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Note
Maximum supply voltage	V_{S_max}	+5.5	V	
Maximum optical power input	P_{in_max}	1	mW	M=1
		0.01		M=100
Operating temperature	T_{opr}	0 to +60	°C	Avoid dew condensation
Storage temperature	T_{stg}	-20 to +70	°C	Avoid dew condensation

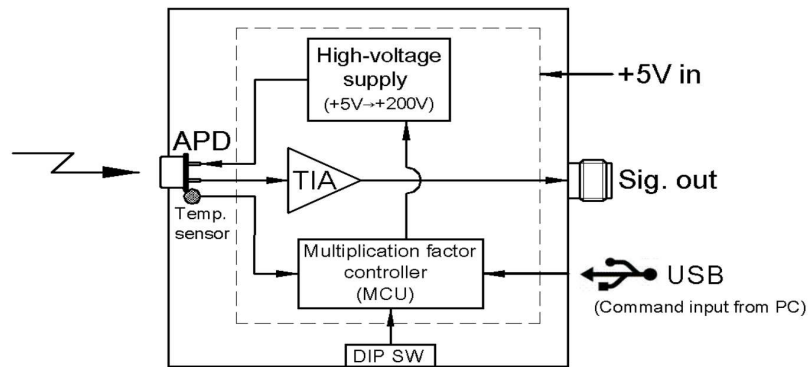
Electrical and Optical Characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Supply voltage	V_S	+4.6	+5.0	+5.4	V	
Consumption current *1	I_C	-	+70	+120	mA	$V_S=+5.0V$
Output impedance	Z_O	-	50	-	Ω	
Sensitive wavelength	λ	400	780(λ_p)	1000	nm	λ_p =peak wavelength
APD responsivity	R	-	0.45	-	A/W	M=1, λ =850nm
Multiplication factor	M	1	-	100	-	Setting by DIP SW or USB communication
Temperature stability of multiplication factor	-	-	+/- 5	-	%	0 to 60 °C, M=30
		-	+/- 10	-		0 to 60 °C, M=100
Upper cutoff frequency *2	fc	-	100	-	MHz	-3dB, M=10 to 100
Lower cutoff frequency	-	-	DC	-	-	
Photoelectric sensitivity	-	-	-67.5	-	kV/W	M=30, λ =850nm
Noise equivalent power	NEP	-	2	-	pA/rootHz	λ =850nm
Minimum detection limit	-	-	5	-	nW rms	

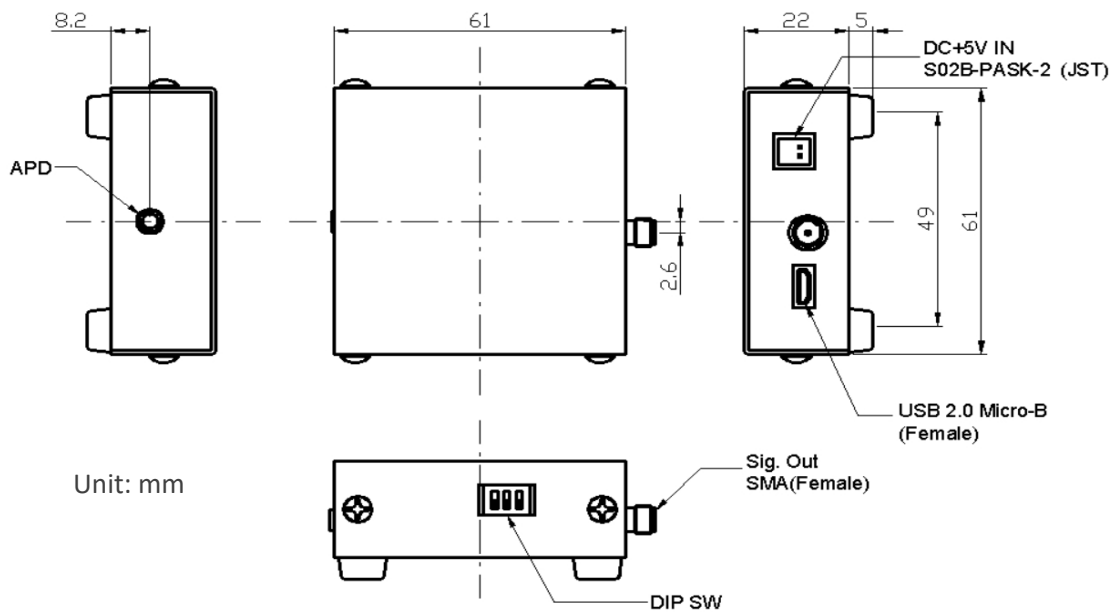
*1 At start up, a current of approximately 800mA is required. The power supply is recommended to have a current capacity of 1A or more.

*2 If the multiplication factor setting value is low, the upper cutoff frequency will decrease. If fast response is required, use at M=10 or more is recommended.

Block diagram



Dimensions



- Specifications , characteristics, data, materials, structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.
- Products listed in this datasheet comply with the RoHS Directive (2011/65/EU).