
**Features**

- User friendly APD module
- Bandwidth DC to 10 MHz
- Power and control via USB
- Signal output via BNC
- Including APD AD1100-8

**Description**

USB-controlled APD kit with temperature compensated power supply in black aluminum housing. Includes APD in hermetic isolated TO package.

**Application**

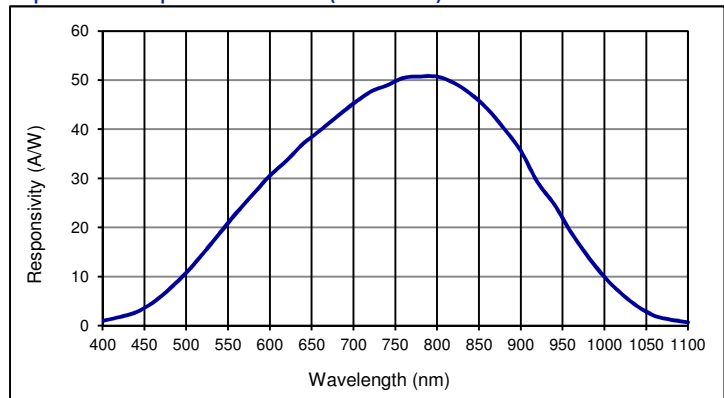
- APD evaluation
- Analytical equipment

**RoHS**

2002/95/EC


**Absolute maximum ratings**

Symbol	Parameter	Min	Max	Unit
$T_{STG}$	Storage temp	-20	80	°C
$T_{OP}$	Operating temp	-10	70	°C
$P_{max}$	Incident light level		10	mW

**Spectral response of APD (M = 100)**

**Electro-optical characteristics of APD chip @ 23 °C\***

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 1130			μm
	Active area		1.0			mm <sup>2</sup>
$I_D$	Dark current	M = 100		4.0	8.0	nA
C	Capacitance	M = 100		8.0		pF
	Responsivity	M = 100; $\lambda = 800$ nm	45	50		A/W
$t_R$	Rise time	M = 100; $\lambda = 905$ nm; $R_L = 50 \Omega$		1.0		ns
	Cut-off frequency	-3dB		0.35		GHz
$V_{BR}$	Breakdown voltage	$I_R = 2 \mu A$ , $V_{BR}$ - binning available	80	150	240	V
	Temperature coefficient	Change of $V_{BR}$ with temperature		0.45		V/K
	Excess noise factor	M = 100		2.2		
	Excess noise index	M = 100		0.2		

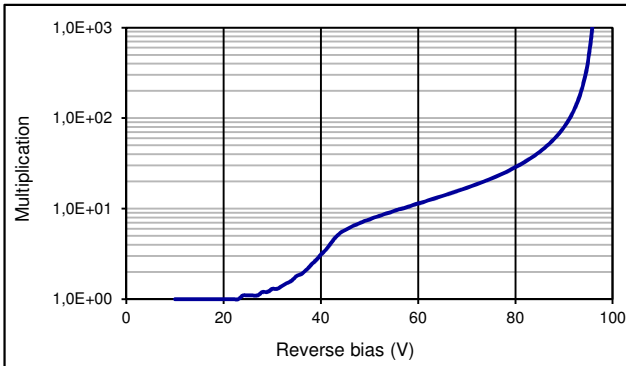
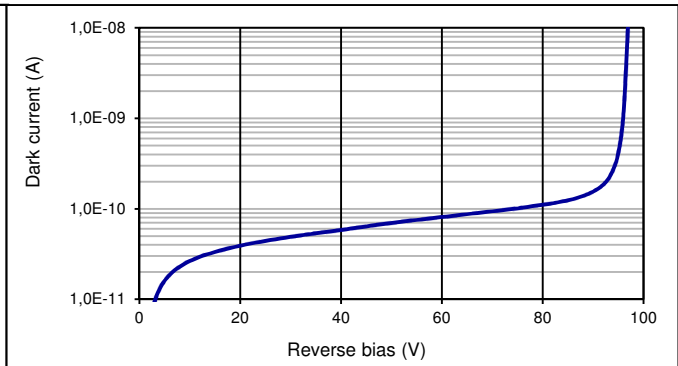
\* APD-Kit also available with other APDs. Specifications are subject to APD type or may be varied on customer demand.

**European, International Sales:**

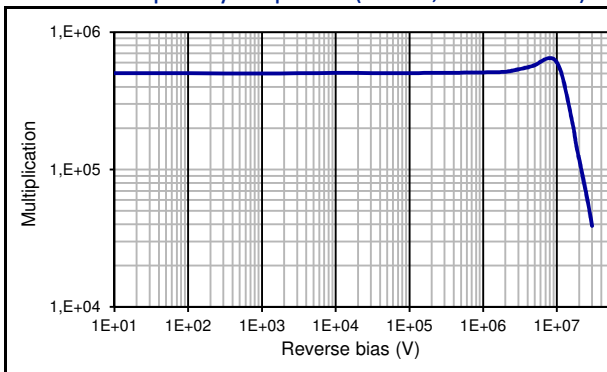

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**APD multiplication as fct of reverse bias (23 °C)**

**APD Dark current as fct of reverse bias (23 °C)**

**Characteristics of module (\*specifications are subject to APD type or may be varied on customer demand)**

Part	Characteristic	Test Condition	Min	Typ	Max	Unit
Module	Power and control connector		USB 2.0 interface (USB Socket Type B)			
Module	Signal conector		BNC			
Module	Supply voltage	via USB	4.75	5	5.25	V
Module	Supply current	via USB		100		mA
Module	User-interface		Labview runtime based Windows software			
<b>Measurement characteristics</b>						
Power Sup.	Bias range for APD		0		200*	V
Amplifier	Photoelectric sensitivity incl. APD	M = 25; $\lambda = 860$ nm; 10 kHz		0.5*		V/ $\mu$ W
Amplifier	Feedback resistance			20*		k $\Omega$
Amplifier	Output impedance			50		$\Omega$
Amplifier	Output voltage	1k $\Omega$ load		2.5		V
		50 $\Omega$ load		0.85		V
Amplifier	Cut-off frequency	-3db		13.5*		MHz
Amplifier	Noise equivalent power	M = 25; $\lambda = 860$ nm; 10 kHz		$8.5 \times 10^{-12}$ *		W/Hz <sup>1/2</sup>
Amplifier	Gain stability	25 °C $\pm$ 10 °C; M = 25		$\pm 5$		%
<b>Mechanical characteristics</b>						
Module	Dimensional outline - width			27.5		mm
Module	Dimensional outline - length			59		mm
Module	Dimensional outline - height			123		mm
Module	Weight			215		g
Module	Housing material		Aluminum (black anodized)			

**Module frequency response (M=25;  $\lambda = 860$  nm)**

**Response to pulsed light signal (M=25;  $\lambda = 860$  nm)**

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