
**Features**

- User friendly APD module
- USB control and power supply
- Temperature compensation
- Including APD AD500-8

**Description**

User friendly USB-controlled APD kit with temperature controlled power supply in non-hermetic aluminum housing.

**Application**

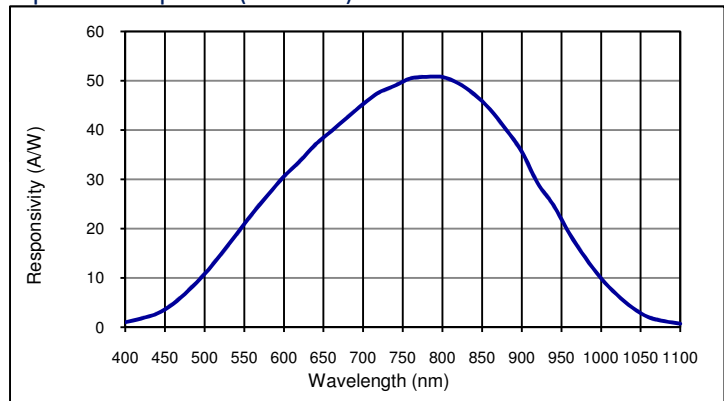
- APD evaluation
- PMT replacement

**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 (M = 100)**

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

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		diameter 500			μm
	Active area		0.196			mm <sup>2</sup>
$I_D$	Dark current	M = 100		0.5	2.0	nA
C	Capacitance	M = 100		2.2		pF
	Responsivity	M = 100; λ = 800 nm	45	50		A/W
$t_R$	Rise time	M = 100; λ = 905 nm; $R_L = 50 \Omega$		0.35		ns
	Cut-off frequency	-3dB		1		GHz
$V_{BR}$	Breakdown voltage	$I_R = 2 \mu A$ , $V_{BR}$ - binning available	80		200	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		

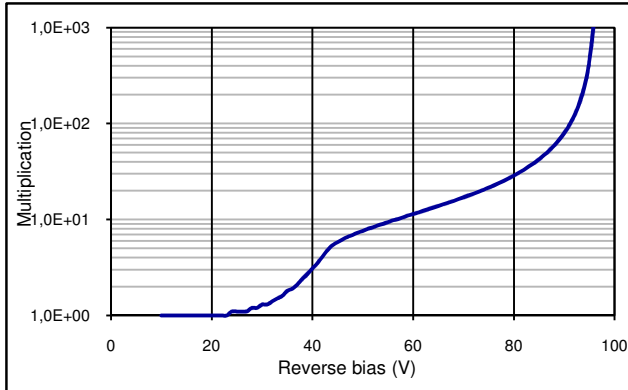
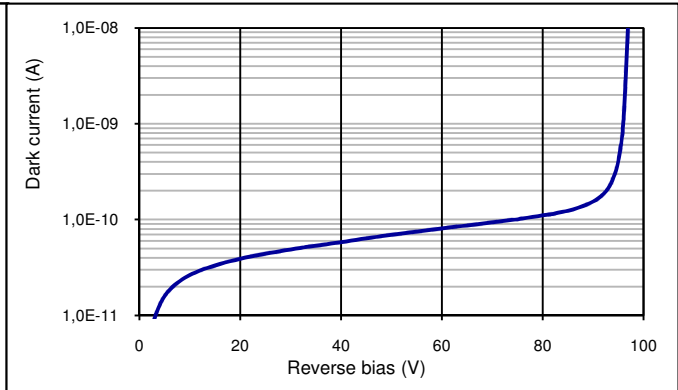
\* APD-Kit can be combined with any SIS APD with  $U_{br} \leq 200$  V

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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 @ 23 °C**

Part	Characteristic	Test Condition	Min	Typ	Max	Unit
Module	Power and control connector		USB 1.1			
Module	Signal connector		BNC			
Module	Supply voltage	via USB	4.75	5	5.25	V
Module	Supply current	via USB			500	mA
Module	Output voltage	via BNC			5	V
Module	Output impedance	via BNC		50		Ω
Module	Cut-off frequency	-3db		10		MHz
Module	Gain stability	25 °C ± 10 °C; M = 30		± 5		%
Module	Dimensional outline - width			41		mm
Module	Dimensional outline - length			25		mm
Module	Dimensional outline - height			120		mm
Module	Weight			245		g
Module	Housing material		Aluminum			
Module	Use-interface		Labview runtime based Windows software			
<b>Amplifier</b>						
Amplifier	Preset impedance			2.5		MΩ
<b>Power Supply</b>						
Power Sup.	Supply voltage temperature coefficient				50	ppm/K
Power Sup.	Ripple	peak to peak		5		mVpp
Power Sup.	Deviation from linearity			0.5		%
Power Sup.	Input capacitance			50		μF
Power Sup.	Output voltage		0		200	V

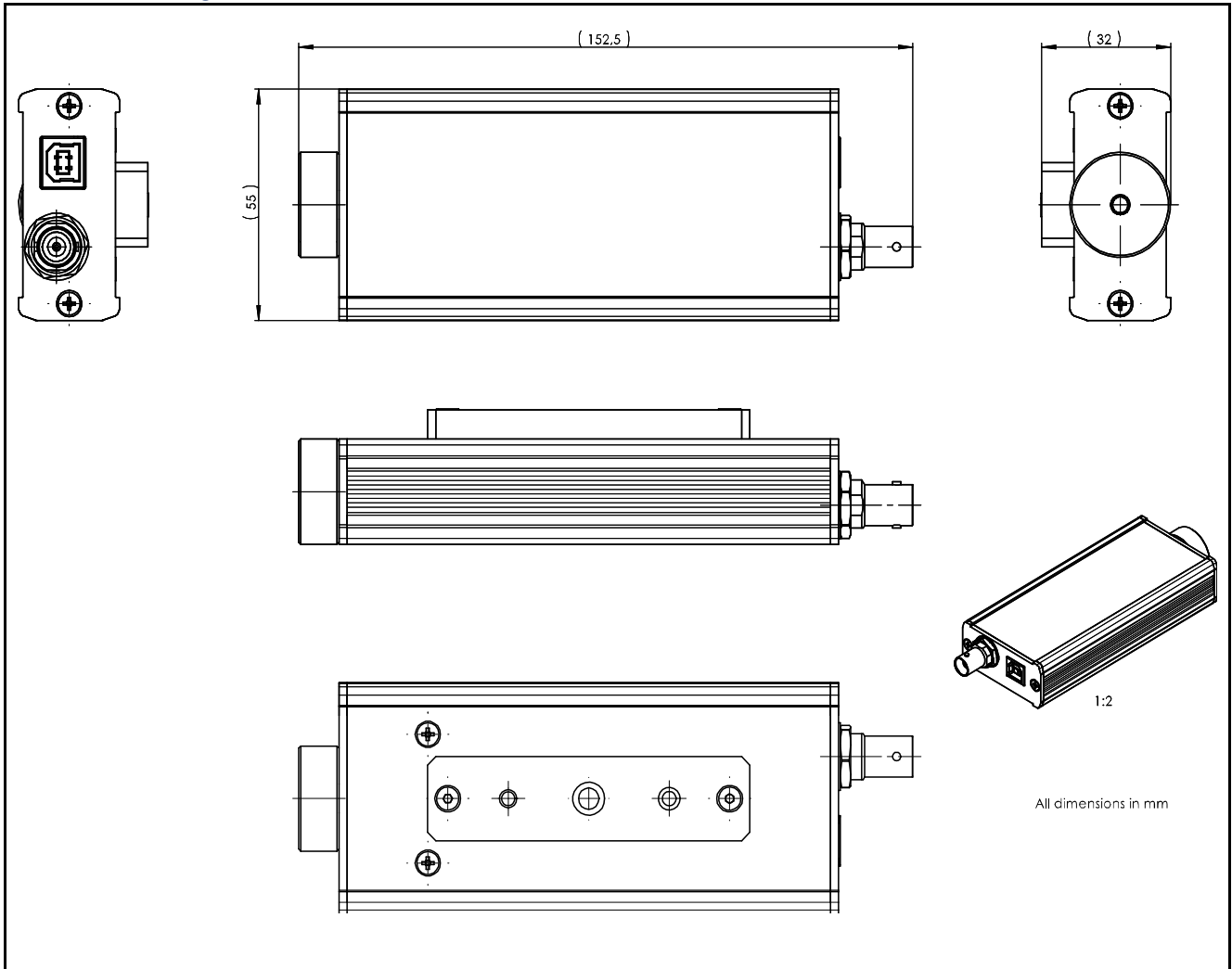
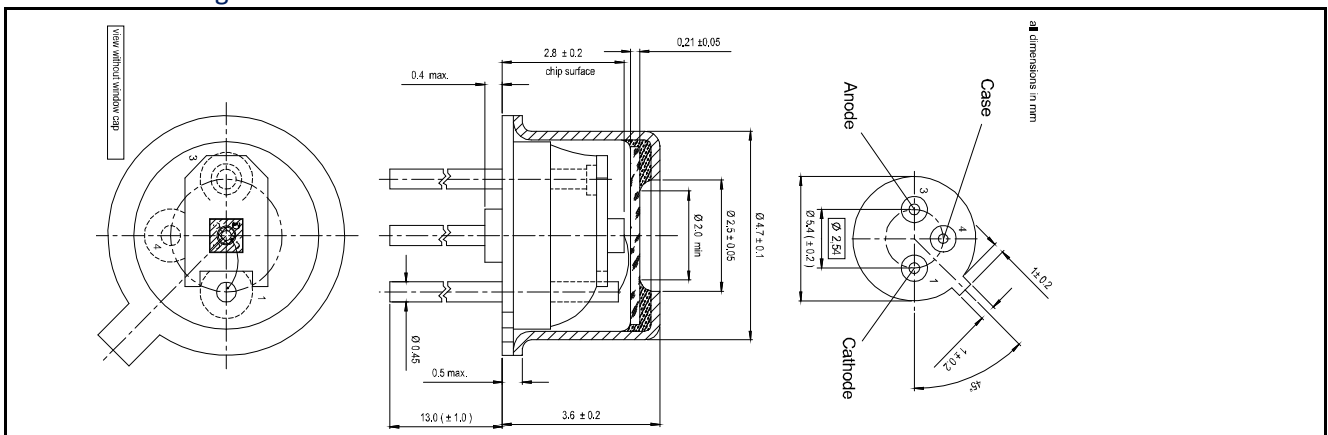
Hint: For more information please refer to the document: "User manual APD-KIT SIS"

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**Technical Drawing APD-Kit**

**Technical Drawing APD**


Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

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