

AD2500-9 TO5i

NIR Enhanced Response Avalanche Photodiode

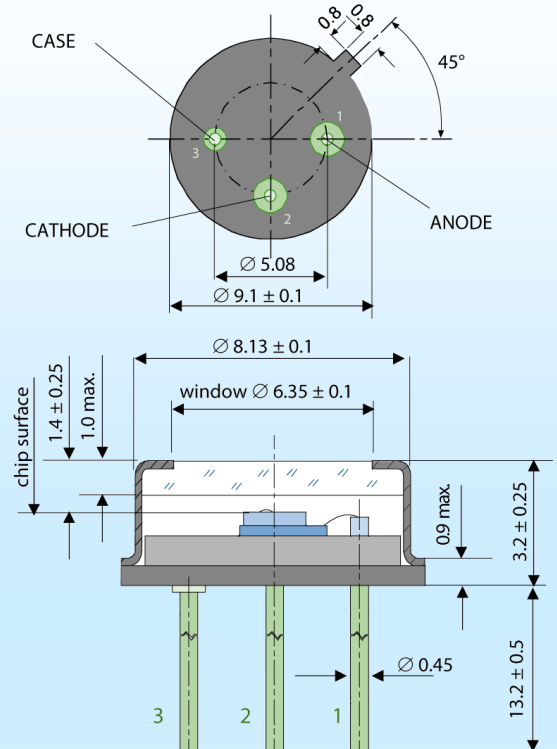
Special characteristics:

high gain at low bias voltage
fast rise time
2500 μm diameter active area
low capacitance



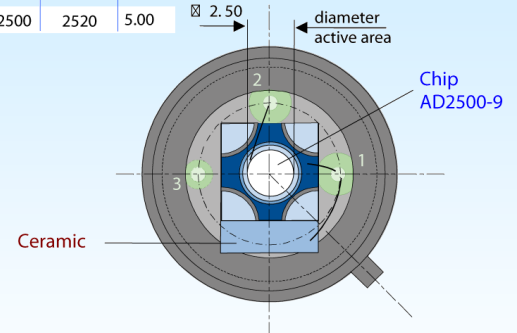
Parameters:	AD2500-9 TO5i
Active Area	5mm ² Ø 2,52mm
Dimensional outline	
window material	clear glass
operating temperature	-40 ..+100 °C
storage temperature	-55 ..+125 °C
Spectral Responsivity (A/W) (905 nm, at M=100)	min. 55 typ. 60
Dark current (nA) (at M=100)	typ. 20 max. 30
Breakdown voltage (V) at I _D = 2 μA (V)	180 - 240
Capacitance (pF) at M=100	12
Rise time (ns) at M=100	1,5
Temp. coefficient U _{br} (V/K)	typ. 1,55
Cut-off frequency (GHz) (-3 dB)	0,2
N.E.P (w/Hz ^{1/2}) (at M=100)	3*10 ⁻¹³
Max. Gain	> 200
Excess Noise factor at M=100	2,5
Excess Noise index at M=100	0,2

Package (TO5i):

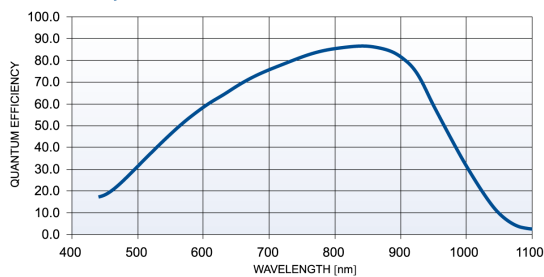


Chip active area

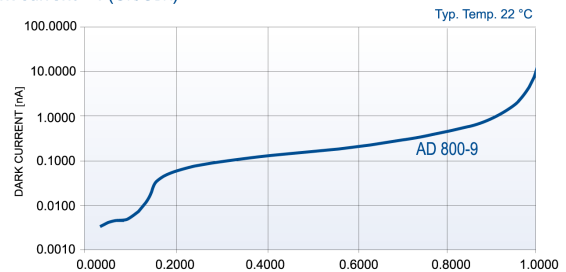
type	diameter	area
AD1900	1950	3.00
AD2500	2520	5.00



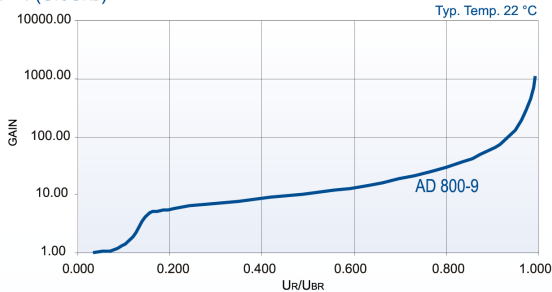
Quantum efficiency for M = 100



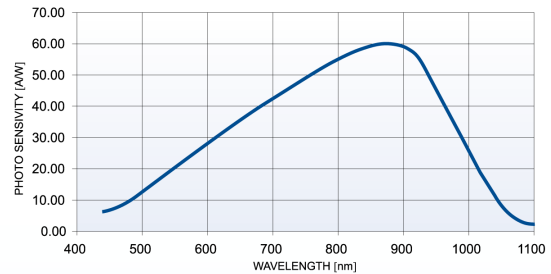
Dark current = f (U_R/U_{BR})



Gain = f (U_R/U_{BR})



Spectral Responsivity at M = 100



Disclaimer: Due to our policy of continued development, specifications are subject to change without notice.

measurement conditions:

Setup of photo current 10 nA at M = 1 and irradiation by a LED (880 nm, 80 nm bandwidth).
Increase the photo current up to 1 μA, (M = 100) by internal multiplication due to an increasing bias voltage.

Maximum Ratings:

max. electrical power dissipation: 100mW at 22 °C
max. optical peak value, once: 200mW for 1s
max. continuous optical operation: I_{ph} (DC) ≤ 250 μA
≤ 1 mA for signal 50μs 'on'/1ms 'off'
(P_{electr.} = P_{opt.} * S_{abs} * M * U_R)

Application Hints:

Current should be limited by a protecting resistor or current limiting - IC inside the power supply.
Use of low noise read-out -IC.
For high gain applications bias voltage should be temperature compensated.
For low light level applications, blocking of ambient light should be used.

Handling Precautions:

soldering temperature: 260 °C for max. 10 s. The device must be protected against solder flux vapour!
min. Pin - length: 2 mm
ESD - protection: Standard precautionary measures are sufficient.
Storage: Store devices in conductive foam.
Avoid skin contact with window!
Clean window with Ethyl alcohol if necessary.
Do not scratch or abrade window.

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