

PIN Photodiode

112 Gbps PAM4
842 nm to 948 nm



**> InGaAs PIN
Photodiode**

**> High speed up to
112 Gbps PAM4**

> 4 Inch Wafer

> Low bias voltage

> Low dark current

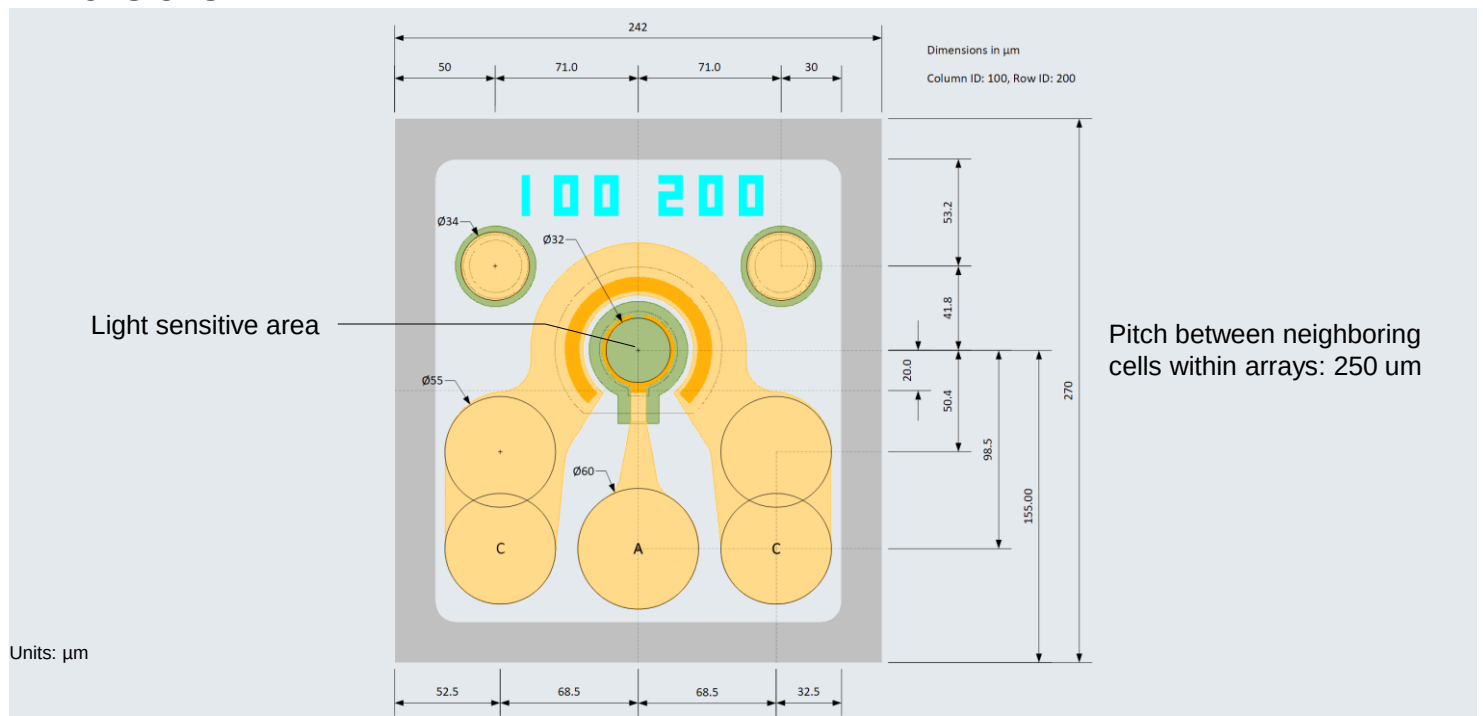
**> Available in
1x1, 1x2 and 1x4**

Datasheet: 112 Gbps PAM4 842 nm to 948 nm PIN Photodiode

Electro-Optical Characteristics ($U_{\text{bias}} = -2 \text{ V}$, $T_s = 25^\circ\text{C}$, 50Ω load unless stated otherwise)

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Wavelength range	λ	842	–	948	nm	
Backside chip temperature	Ts	0	–	85	°C	
Sensitive area diameter	d	–	32	–	μm	
Bias voltage	U _{bias}	—	-2	-3	V	Positive voltage applied to cathode
Optical bandwidth	f _{3dBo}	25	28	–	GHz	Ts = 25°C to 85°C
Responsivity	R	0.5	0.55	–	A/W	Optical input 1 mW
Dark current	I _d	–	-1	-100	nA	Tchip = 25°C to 85°C
Capacitance	C	–	100	110	fF	

Dimensions



Product variants

Type	Single chip	1 x 2 line array	1 x 4 line array
Part number	TPD-100(01)-WBD-B0	TPD-100(02)-WBD-B0	TPD-100(04)-WBD-B0
Dimensions	270 x 242 x 150 μm	270 x 492 x 150 μm	270 x 992 x 150 μm
Wiring		Electrically separated channels	



For more information visit
www.trumpf.com/s/VCSEL-solutions

Safety information:



 Electrostatic sensitive devices / observe precautions for handling

TRUMPF Photonic Components GmbH

Lise-Meitner-Straße 13 · 89081 Ulm · Germany

E-mail: photonic.components@trumpf.com · Homepage: www.trumpf.com/s/VCSEL-solutions

April 2025

