

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

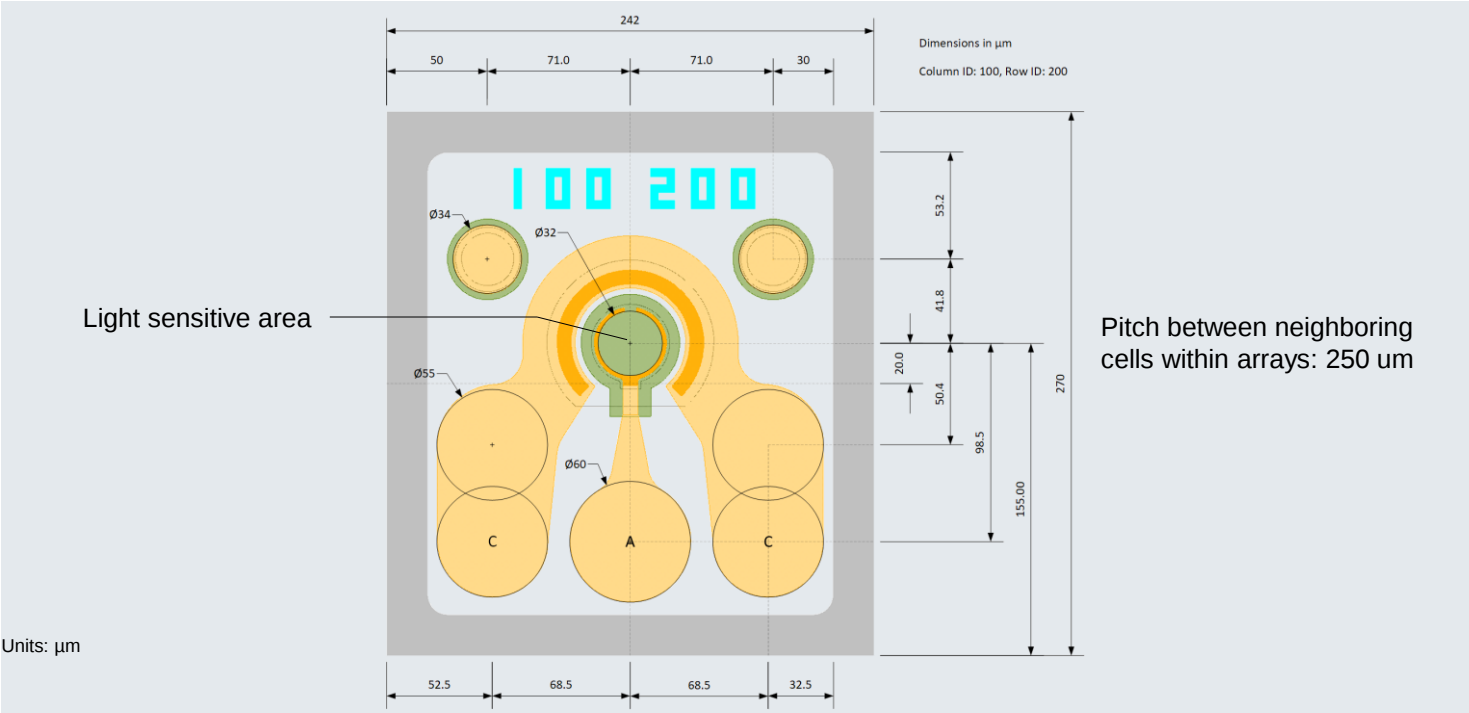
**Available in
1x1, 1x2 and 1x4**

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

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

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Wavelength range	λ	842	–	948	nm	
Backside chip temperature	T_s	0	–	85	$^\circ\text{C}$	
Sensitive area diameter	d	–	32	–	μm	
Bias voltage	U_{bias}	—	-2	-3	V	Positive voltage applied to cathode
Optical bandwidth	f_{3dB0}	25	28	–	GHz	$T_s = 25^\circ\text{C}$ to 85°C
Responsivity	R	0.5	0.55	–	A/W	Optical input 1 mW
Dark current	I_d	–	-1	-100	nA	$T_{chip} = 25^\circ\text{C}$ 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-B1	TPD-100(02)-WBD-B1	TPD-100(04)-WBD-B1
Dimensions	270 x 242 x 200 μm	270 x 492 x 200 μm	270 x 992 x 200 μm
Wiring	Electrically separated channels		

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

Safety information:
 Electrostatic sensitive devices / observe precautions for handling

