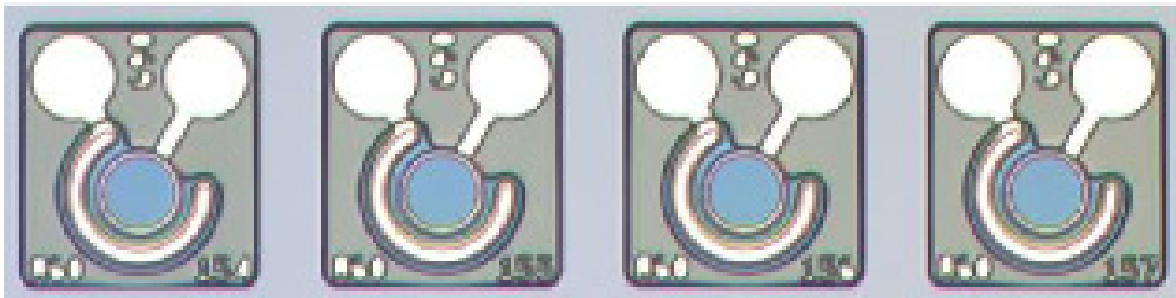


850 nm 14 Gbps GaAs PIN PHOTODIODE


APA1101010000

APA1101040000

APA1101120000



FEATURES

- High responsivity
- Low operating voltage
- Low capacitance
- Low dark current
- Data rates up to 14 Gb/s
- Topside anode & cathode configuration
- Available as 1, 4 (photo) and 12 channel array chip
- Halogen & RoHS compliant 

APPLICATIONS

- Datacom
- Parallel multimode fiber optical communication

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Electro-Optical Characteristics

T = 25 °C unless otherwise noted

Parameter	Symbol	Conditions	Ratings			Unit
			Min	Typ	Max	
Aperture diameter	d			60		μm
Wavelength	λ		840	850	860	nm
Responsivity	R		0.55	0.60	0.65	A/W
Dark current	I _d	U _{op} = -2V		3	100	pA
Breakdown voltage	U _{BD}			-80		V
Capacitance	C	U _{op} = -2V	110	125	150	fF
3dB-bandwidth	f _{3dB}	U _{op} = -2V	12	14		GHz

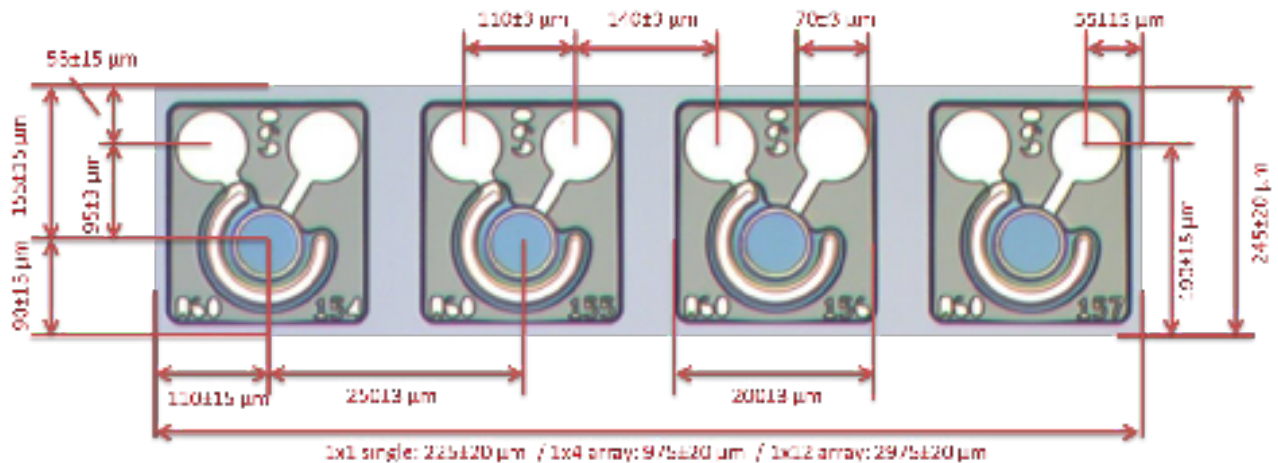
Absolute Maximum Ratings

Parameter	Rating	Unit
Operating temperature	-5 to +90	°C
Storage temperature	-40 to +100	°C
Mounting temperature (max. 10sec)	260	°C

Chip Outer Dimensions

Parameter	Min	Typ	Max	Unit
Die length, APA1101010000	195	225	245	μm
Die length, APA1101040000	955	975	995	μm
Die length, APA1101120000	2955	2975	2995	μm
Die width	225	245	265	μm
Die height	135	150	165	μm

Chip Layout



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RoHS Compliance

Coherent is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information

Product Code	Data Rate	Description	Shipment Packaging
APA1101010000	up to 14 Gb/s	850 nm 14 G 1x1 Photodiode single chip	Wafer ⁽¹⁾
APA1101040000	up to 14 Gb/s	850 nm 14 G 1x4 Photodiode array	Wafer ⁽¹⁾
APA1101120000	up to 14 Gb/s	850 nm 14 G 1x12 Photodiode array	Wafer ⁽¹⁾
APA1101010100	up to 14 Gb/s	850 nm 14 G 1x1 Photodiode single chip	Ring ⁽²⁾
APA1101040100	up to 14 Gb/s	850 nm 14 G 1x4 Photodiode array	Ring ⁽²⁾
APA1101120100	up to 14 Gb/s	850 nm 14 G 1x12 Photodiode array	Ring ⁽²⁾
APA1101010200	up to 14 Gb/s	850 nm 14 G 1x1 Photodiode single chip	Gelpak ⁽³⁾
APA1101040200	up to 14 Gb/s	850 nm 14 G 1x4 Photodiode array	Gelpak ⁽³⁾
APA1101120200	up to 14 Gb/s	850 nm 14 G 1x12 Photodiode array	Gelpak ⁽³⁾

⁽¹⁾ Full diced 3" wafer on UV tape on metal lead frame Ø 230 mm, electronic wafermap provided (standard high volume)

⁽²⁾ Known Good Dies on UV tape on grip ring Ø 150 mm (medium volume)

⁽³⁾ Known Good Dies in 2" Gel-Pak (low volume)

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Coherent before they become applicable to any particular order or contract. In accordance with the Coherent policy of continuous improvement specifications may change without notice. Further details are available from any Coherent sales representative.

Safety Labels



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.