

14 Gbps PIN Photodiode 1x4 1x12 Chip



- ◆ GaAs PIN Photodiode
- ◆ Low bias voltage, low dark current
- ◆ High speed modulation up to 14 Gbps
- ◆ Suitable for wire bond and flipchip process
- ◆ E.g. for FDR InfiniBand data transmission

Preliminary

ELECTRO-OPTICAL CHARACTERISTICS

Chip temperature = 25°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Responsivity	R	A/W		0.6		
Active area diameter	d_{act}	μm		55		
Dark current 1	I_{d1}	nA		0.02	0.2	$U_{bias} = -2V$
Dark current 2	I_{d2}	μA			1	$U_{bias} = -20V$
Capacitance	C	fF		200		$U_{bias} = -2V$
Modulation bandwidth	V_{3dB}	GHz		14		50Ohm load, -3dB, $U_{bias} = -2V$
Wavelength range	λ	nm	840		860	

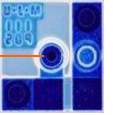
ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40...140 °C
Operating temperature	0...85 °C
Continuous forward current	10 mA
Soldering temperature (for 5s)	330 °C
Reverse voltage	20 V
Reverse current	2 mA

NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.

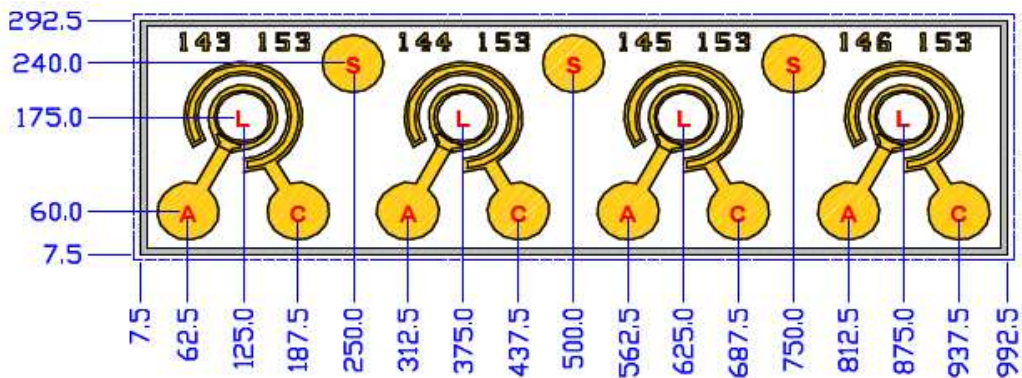


ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling



1x4 Photodiode chip:

- Description:** PD chip, 1 x 4 PD line array
- Type:** ULMPIN-14-TT-N0104Y
- Mounting:** anode and cathode wire bonding on front side
- Wiring:** separate cathodes
- Dimensions:** 285 μm x 985 μm
- Thickness:** 200 μm
- Bond pad diameter:** 70 μm



Units: μm

1x12 Photodiode chip:

- Description:** PD chip, 1 x 12 PD line array
- Type:** ULMPIN-14-TT-N0112Y
- Mounting:** anode and cathode wire bonding on front side
- Wiring:** separate cathodes
- Dimensions:** 285 μm x 2985 μm
- Thickness:** 200 μm
- Bond pad diameter:** 70 μm
- Remark:** 1x12 array realized by keeping three 1x4 units in one array in dicing process