



OPTO ELECTRONIC PRODUCTS

# MXP3000 Series

## GaAs PIN Photodiode Chips

### PRODUCT PREVIEW

#### DESCRIPTION

Microsemi's GaAs PIN Photodiode chips are ideal for wide bandwidth 850nm optical networking applications.

The five devices offered feature excellent dark current ratings of 1-3 nA, and a breakdown voltage of 20 Volts with the bandwidth options for 1.4 GHz (active area of 250 mm<sup>2</sup>), 1.75 GHz(active area of 200 mm<sup>2</sup>), 5 GHz (active area of 100 mm<sup>2</sup>), 7 GHz (active area of 60 mm<sup>2</sup>), and 8.75 GHz (active area of 30 mm<sup>2</sup>),

The MXP3000 series of photodiodes are originally offered in die form for manufacturers of photodiode modules, supervisory pump laser circuits, and combination PIN Photodiode-transimpedance amplifier hybrids.

#### KEY FEATURES

- Low Dark Current
- Extremely low capacitance
- Wide bandwidth
- Fast response time

#### APPLICATIONS/BENEFITS

- 850nm Fiber Optic Applications

**IMPORTANT:** For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

Part Ratings and Characteristics

Item	Sym	MXP3001	MXP3002	MXP3003	MXP3004	MXP3005	Unit	Test Condition
Active Area(Dia.)	—	30	60	100	200	250	mm <sup>2</sup>	—
Photo Sensitive Area		0.0007	0.0028	0.0078	0.0314	0.0491	mm <sup>2</sup>	
Detection Range	—	850	850	850	850	850	Nm	—
Responsivity	R	0.45	0.45	0.45	0.45	0.45	A/W	V <sub>R</sub> =-5V, I = 850nm
Dark Current	I <sub>dark</sub>	1	1	1	2	3	nA	V <sub>R</sub> =-5V
Capacitance	C	0.3	0.4	0.6	1.5	2	pF	V <sub>R</sub> =-5V
Rise/Fall Time	t <sub>r</sub> /t <sub>f</sub>	40	50	70	200	250	ps	V <sub>R</sub> =-5V, @ 850nm
Bandwidth		8.75	7	5	1.75	1.4	GHz	V <sub>R</sub> =-5V, @ 850nm
Breakdown Voltage	VB	20	20	20	20	20		I <sub>R</sub> =10uA
Chip Size		350 x 350	350 x 350	350 x 350	500 x 500	500 x 500	um x um	
Bonding Pad Size		40 x 100	40 x 100	100	100	100	um x um	