

# RayCan *850 nm PIN Photodiode*

## *RD14xxx1-S*

### Description

The RayCan bottom-emitting 850 nm pin PD is designed for high-speed, high-performance communication applications.

### Features

- Low dependence of electrical and optical characteristics over temperature
- Data rate up to 10 Gbps

### Applications

- Access network for long distance
- Local area network
- Gigabit Ethernet

### Electrical and optical characteristics

(T = 25°C unless otherwise stated)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Responsivity	$R$	0.5			$A/W$	$\lambda = 850 \text{ nm}$
Active area diameter	$d_{act}$		50		$\mu m$	
Dark current	$I_d$			1.0	$nA$	$V_{bias} = 3 \text{ V}$
Breakdown Voltage	$V_B$	40			$V$	$I_d = 1 \mu A$
Capacitance	$C_p$		0.2		$pF$	
Rise and fall times	$t_r$ $t_f$		$\sim 50$ $\sim 50$		$psec$	(20%-80%)
Bandwidth	$f_{3dB}$	7.5			$GHz$	

### Absolute maximum ratings

(T = 25°C unless otherwise stated)

Parameter	Symbol	Rating	Unit	Notes
Forward current	$I_f$	3	$mA$	
Reverse voltage	$V_r$	40	$V$	
Operating temperature	$T_{op}$	0 ~ 85	$^{\circ}C$	
Storage temperature	$T_{stg}$	-40 ~ 100	$^{\circ}C$	
Reflow temperature	$T_{ref}$	260	$^{\circ}C$	10 sec. 2 mm from case

### Notice

Conditions exceeding those listed may cause permanent damage to the device. Devices subjected to conditions beyond the limits specified for extended periods of time may adversely affect reliability.

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**Caution**

This product is sensitive to the electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.

**RayCan**

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