

## AOP301AC: 55 $\mu\text{m}$ InGaAs PIN Photodiode

### FEATURES

- Highly reliable planar structure.
- 55  $\mu\text{m}$  top-illuminated active area.
- Low capacitance.
- Low dark current.
- High responsivity.

### APPLICATIONS

- Optical receivers up to 2.5 Gb/s for Gigabit Ethernet, Fiber Channel and SONET/SDH.
- Instrumentation.

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
PIN reverse voltage	$V_r$	30	V
PIN reverse current	$I_r$	2	mA
Operating temperature	$T_{amb}$	-40 to +85	$^{\circ}\text{C}$
Storage temperature	$T_{stg}$	-50 to +100	$^{\circ}\text{C}$

### ELECTRICAL AND OPTICAL CHARACTERISTICS AT 25 $^{\circ}\text{C}$

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Wavelength	$\lambda$	1000		1650	nm	
Responsivity	R	0.9	1.1		A/W	$\lambda=1550\text{nm}$
		0.85	0.95			$\lambda=1310\text{nm}$
Operation voltage	V	2.5		20	V	
Dark current	$I_d$		0.02	1	nA	$V_r=5\text{V}$
Cutoff frequency	$f_c$	2.5			GHz	$V_r=5\text{V}$
Capacitance	C		0.5	0.65	pF	$V_r=5\text{V}, f=1\text{MHz}$