

◆ **Introduction:**

S-16AAPD01-G is a front-side illuminated InGaAs APD chip with a planar structure. This product has high responsivity, low dark current, and excellent reliability. It is ideally suited for high sensitivity optical sensing.

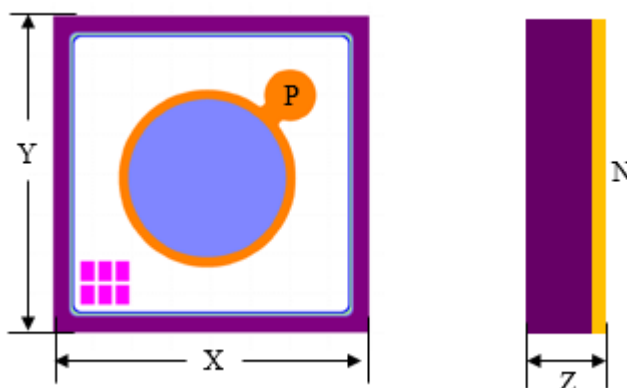
◆ **Key Features:**

- Optical aperture: 200μm
- Low capacitance: 3.0pF Max
- Backside common cathode and topside anode
- Operating temperature range:-40 to +85°C
- 100% testing and inspection
- RoHS compliant

◆ **Applications:**

- GPON
- SONET OC48
- Ethernet
- Fiber Channel

◆ **Physical Parameters:**



	Die Dimension			Aperture	Pad
Symbol	X	Y	Z	D	P
Min	375	375	135	195	Φ60
Typ	400	400	150	200	Φ65
Max	425	425	165	205	Φ70
Unit	μm	μm	μm	μm	μm

◆ Absolute Maximum Rating:

Parameter	Symbol	Rating		Unit
		Min	Max	
Operation Voltage	V_{OP}		V_{BR}	V
Forward Current	I_F		5	mA
Reverse Current	I_R		30	mA
Operating Temperature	T_{OP}	-40	85	°C
Storage Temperature	T_C	-45	125	°C

◆ Specifications (T=25°C) :

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Wavelength Range	λ		1210	1310/1550	1650	nm
Breakdown Voltage	V_{BR}	$I_D=10\mu A$	38		60	V
Punch-through Voltage	V_P	$\lambda=1550nm$ $P_O=1\mu W$ $M=1.1$	18		30	V
Dark Current	I_D	$V_R=V_{BR}-3V$		60	250	nA
Responsivity	R_e	$\lambda=1550nm$ $P_O=1\mu W$ $V_R=V_{BR}-3V$	10			A/W
Multiplication Factor	M	$\lambda=1550nm$ $P_O=1\mu W$ $V_R=V_{BR}-3V$	10			
Capacitance	C	$V_R=V_{BR}-3V$		2.0	3.0	pF
-3dB Bandwidth	BW	$V_R=V_{BR}-3V$	1.0			GHz
Temperature coefficient of V_{BR}	γ	+20~+85°C	0.07		0.12	V/°C
		-40~+20°C	0.09		0.15	