

Preliminary

NEC

OD-8451N

SMT-InGaAs PIN Module

OD-8451N is a new surface-mount low cost InGaAs-PIN-PD module. This module can achieve stable operation over wide temperature range of -40 to +85°C.

This module has detachable pigtail interface and packaged in an 8 pin surface-mount package. Therefore the module can be soldered like an ordinary IC by standard I.R. reflow soldering process.

OD-8451N can be operated at speed up to 622 Mb/s and is especially suitable for the use of the subscriber loop, SONET and FITL.

1. FEATURES

- Surface mountable using I.R. reflow solder
- Small size flat ceramic package (7.6 x 12.7 x 3 mm)
- High responsivity : $S = 0.9 \text{ A/W}$
- Small dark current : $I_D = 0.1 \text{ nA}$
- Wide operating temperature range : -40 to +85°C
- Detachable pigtail interface

2. APPLICATION

- Subscriber loop
- Data communications
- Telecommunications
- Local area networks

3. ABSOLUTE MAXIMUM RATINGS

(Ta=+25°C, unless noted)

Item	Symbol	ratings	Unit	notes
Optical Input Power	Pin	1.0	mW	
Forward Current	IF(PD)	2.0	mA	
Reverse Voltage	VR(PD)	20	V	
Operating Temperature	Top	-40 to +85	°C	
Storage Temperature	Tstg	-40 to +85	°C	
Lead Soldering Temperature	Tsol	230°C, 30sec.		reflow soldering

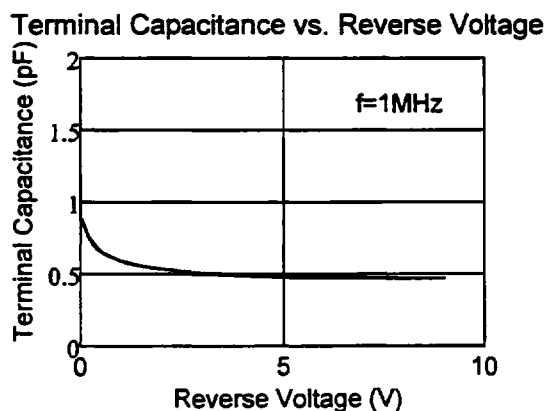
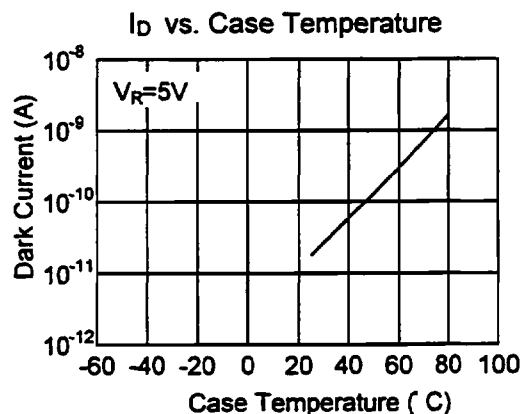
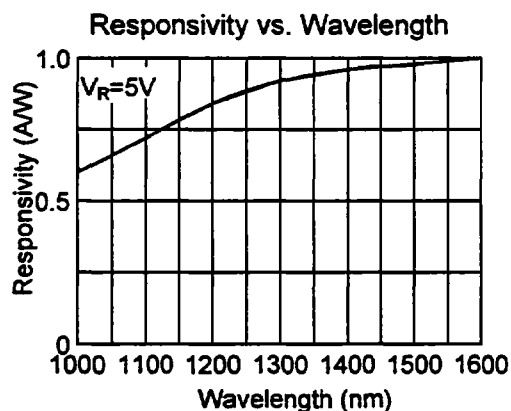
4. ELECTRICAL/OPTICAL CHARACTERISTICS

(Tc=+25°C, unless otherwise noted)

Item	Symbol	Conditions*	Min.	Typ.	Max.	Unit
Dark Current	I _D	V _R =5V, 25°C	-	0.1	5	nA
		V _R =5V, 85°C	-	4	100	nA
Responsivity	S	λ=1300nm	0.75	0.9	-	A/W
		λ=1550nm	-	1.0	-	A/W
Terminal Capacitance	C _t	V _R =5V, f=1MHz	-	0.8	1.5	pF
Cut-off Frequency	f _c	λ=1300nm, -3dB R _L =50Ω; V _R =5V	1	1.5	-	GHz
Rise/Fall Time	t _r /t _f	10-90%, λ=1300nm R _L =50Ω; V _R =5V	-	0.3	1	nsec

* Connected with multimode(GI50) fiber pigtail (OD-S524 Series)

5. TYPICAL CHARACTERISTICS



OD-8451N



February 1998

Top View

PIN No.	Function
1	NC
2	Package Ground
3	PD Cathode
4	NC
5	NC
6	PD Anode
7	NC
8	NC