

**OD8710A, OD8710B, OD8710D****Preliminary****1.3 $\mu$ m Band Selective 156Mbps PIN-Preamplifier Receiver Coaxial Module****GENERAL DESCRIPTION**

OD8710 series are optical receiver modules that use a 1.3  $\mu$ m band selective InGaAsP PIN photodiode with a low noise Pre-Amplifier. Package style is a hermetically sealed coaxial package with single or multi mode fiber pigtail. These receiver modules were designed especially for bidirectional 1.3  $\mu$ m/1.55  $\mu$ m systems, and can detect 1.3  $\mu$ m signals selectively under the 1.55  $\mu$ m background stray light, with isolation ratio greater than 30 dB.

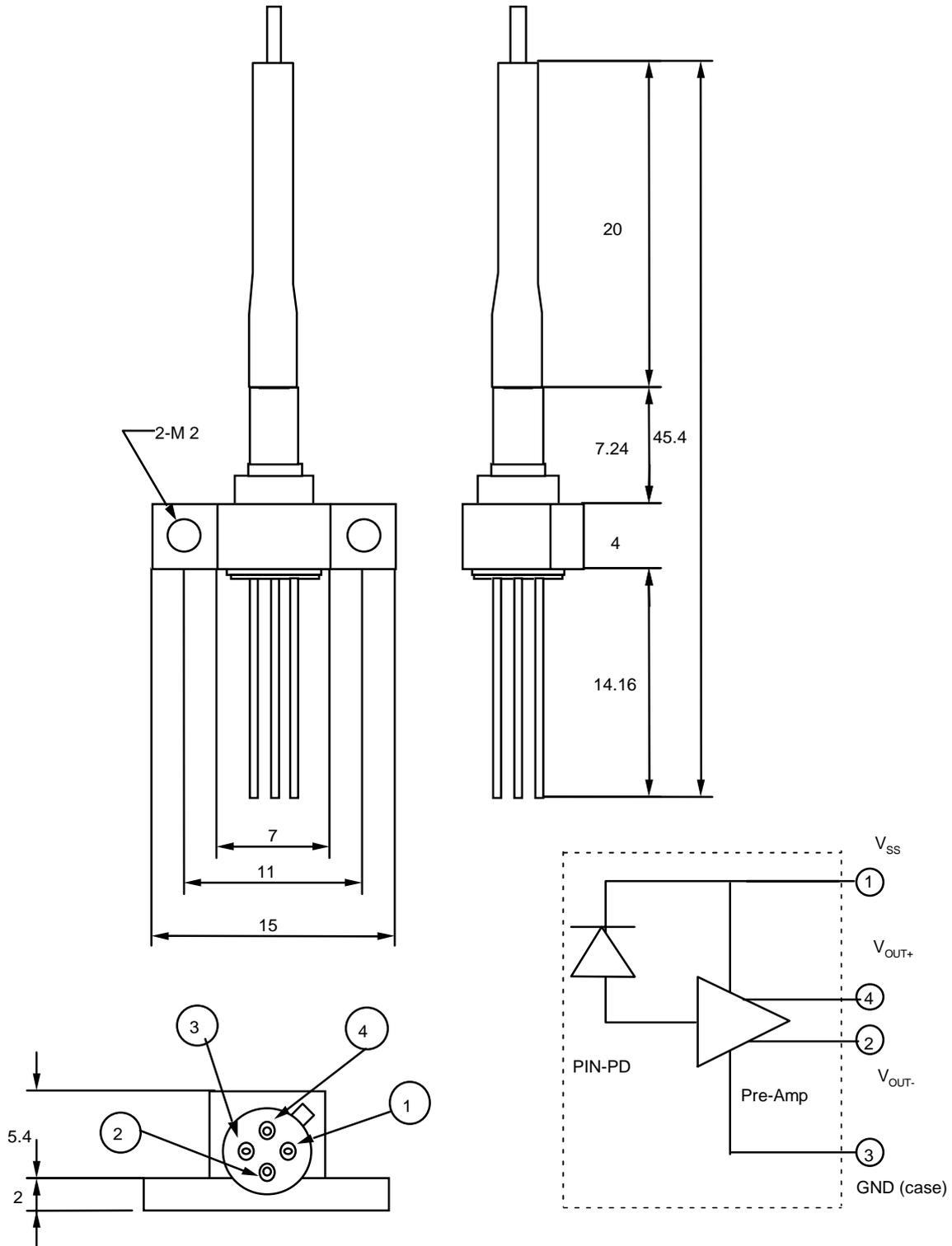
**FEATURES**

- Single 3.3 V supply
- Low noise: NEPo 12 nWrms (Typ.)
- Automatic gain control
- Sensitivity: -39 dBm (Typ.)
- 1.3 $\mu$ m band selective ratio: 30 dB (as compared with 1.55 $\mu$ m)
- Differential output: Load > 500  $\Omega$

**APPLICATIONS**

- Digital optical transmission receivers
- 156Mbps SONET/SDH/ATM-PON receivers

**PACKAGE DIMENSIONS**



Note 1: Unit = mm

Note 2: Fiber hood dimension is provisional.

**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Condition	Ratings	Unit
Supply Voltage	$V_{SS}$	Ta = 25°C	4.5	V
Incident Optical Power	$P_O$		-3	dBm
Operating Case Temperature	$T_{OP}$	—	-20 to +85	°C
Storage Temperature	$T_{STG}$	—	-40 to +85	°C

**OPTICAL AND ELECTRICAL CHARACTERISTICS**(V<sub>SS</sub> = 3.3 V, Wavelength = 1310 nm & Top = 25°C, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Wavelength	$\lambda$	—	1270	—	1350	nm
Sensitivity	PRL	RL > 500 $\Omega$ , 156Mb/s, NRZ PRBS2 <sup>31</sup> -1, BER10 <sup>-10</sup>	—	-39	-37	dBm
Dynamic Range	Dr	—	29	—	—	dB
Bandwidth	BW	RL > 500 $\Omega$ , Pin = -31 dBm -3 dB from 300 kHz	115	—	—	MHz
Differential Responsivity	Rd	RL > 500 $\Omega$ , Pin = -31 dBm	—	30	—	kV/W
Input Noise Equivalent Optical Power	NEP <sub>o</sub>	BW = 117 MHz, Pin = 0 mW	—	12	—	nW RMS
Recommended Supply Voltage	$V_{SS}$	—	3.0	3.3	3.6	V
Supply Current	$I_{SS}$	Pin = 0 mW	—	19	24	mA

**FIBER PIGTAIL SPECIFICATIONS****•OD8710A**

Parameter	Specifications	Unit
Type	MM	---
Mode Field Diameter	62.5	μm
Cladding Diameter	125	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m

**•OD8710B**

Parameter	Specifications	Unit
Type	SM	---
Mode Field Diameter	10	μm
Cladding Diameter	125	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m

**•OD8710D**

Parameter	Specifications	Unit
Type	MM	---
Mode Field Diameter	50	μm
Cladding Diameter	125	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m

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