

## Optoelectronics Components Data Sheet

### ■ DE-0783

#### 155Mbps PIN-preamplifier Coaxial Module

#### Description

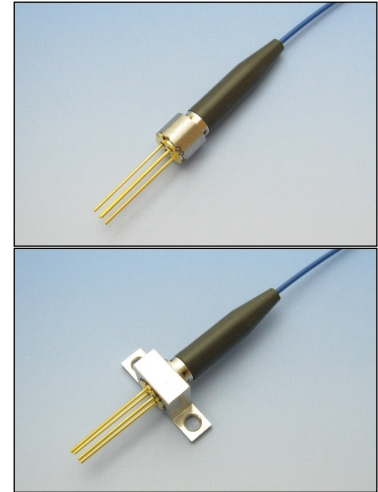
DE-0783 is a 155Mbps, optical receiver module of coaxial pigtail type. This module consists of an InGaAs PIN photodiode (PD) with a trans-impedance amplifier (TIA), a single-mode fiber and a coaxial package. This module is suitable for building digital optical transmission systems up to 155Mbps.

#### Features

- ◆ Data rate : 155Mbps
- ◆ Optical sensitivity : -38dBm
- ◆ Differential output
- ◆ Built-in TIA
- ◆ Hermetically sealed PIN-TIA device
- ◆ YAG laser spot welding for high reliability
- ◆ Coaxial Package
- ◆ -40 to +85 °C operating temperature range

#### Applications

- SONET OC-3/SDH STM1 applications
- Digital transmission systems



### **Absolute Maximum Ratings**

(Tc=25°C, unless otherwise specified)

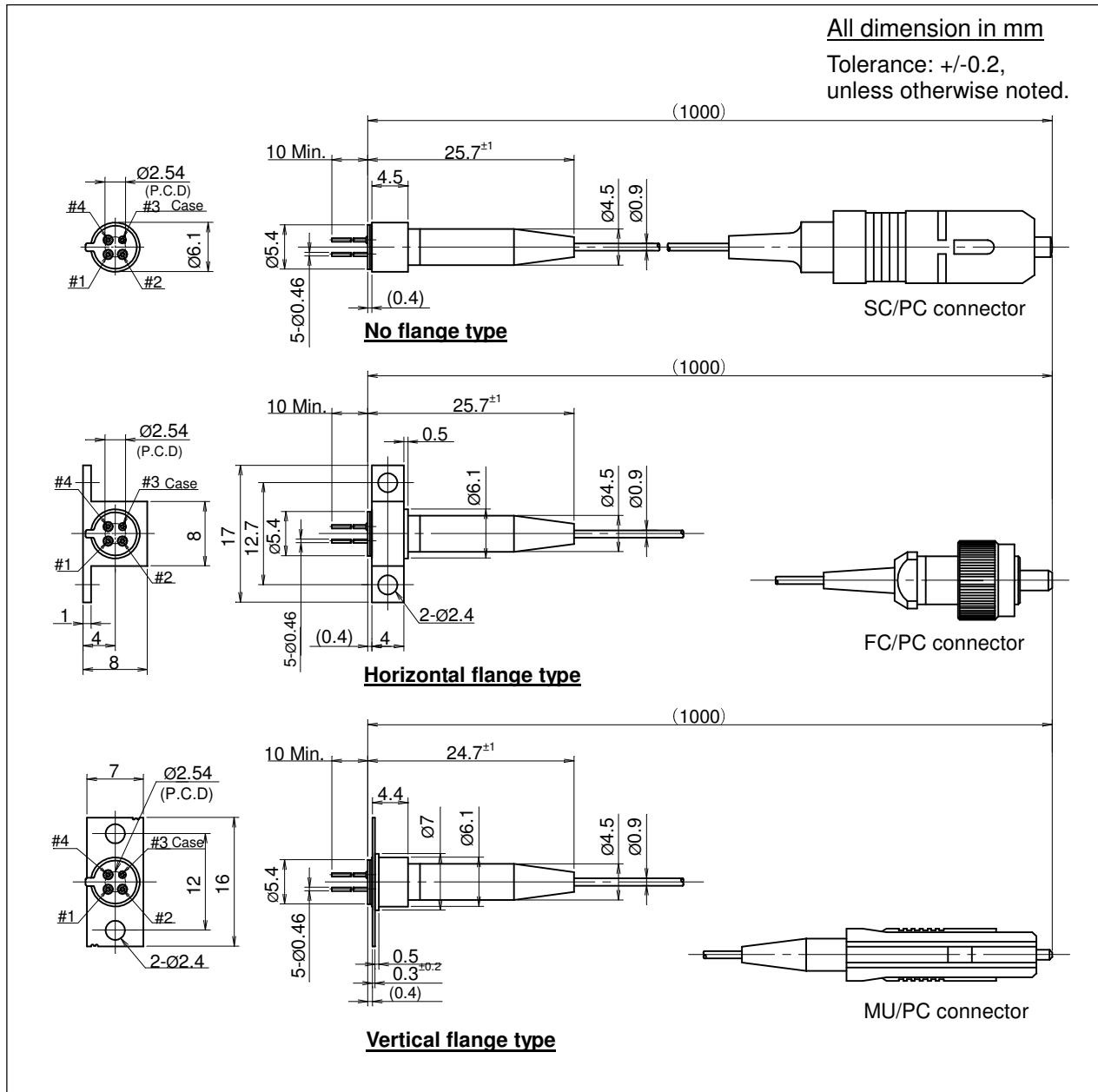
Parameter	Symbol	Ratings	Unit	Conditions
Power supply voltage	Vcc	4.5	V	---
Optical Input power	Pin	10	dBm	---
Storage temperature	Tstg	-40 ~ +85	°C	---
Operating temperature	Tc	-40 ~ +85	°C	---
Soldering temperature	Ts	260	°C	10sec, >2mm

### **Electrical and Optical Characteristics**

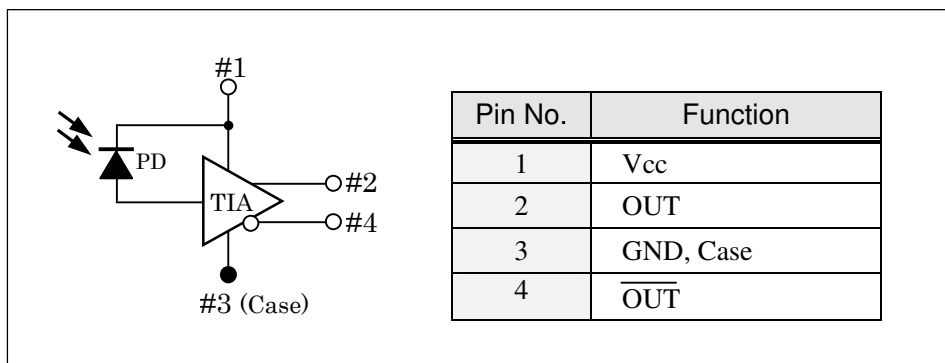
(Tc=-40 to 85°C, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	---	3	3.3	3.6	V
Power supply current	Icc	---	12	22	32	mA
Output voltage (Differential)	Vout	RL>500Ω	---	---	800	mVpp
Responsivity (Differential)	R	λp=1550nm, RL>500Ω Pin= -36dBm(Ave.), 10MHz	---	50	---	kV/W
Bandwidth	BW	RL=50Ω, Pin=-10dBm, -3dB	---	140	---	MHz
Operating bit rate	fop	---	---	---	156	Mbps
Rise & Fall time	tr, tf	20-80%	---	---	2	ns
Output impedance	Rout	Single ended	25	40	100	Ω
Sensitivity	Prmin	fop=155Mbps, ExR=10dB λp=1550nm, BER=10 <sup>-10</sup> PRBS 2 <sup>23</sup> -1 NRZ	---	-38	---	dBm

## Outline Drawings



## Pin configuration

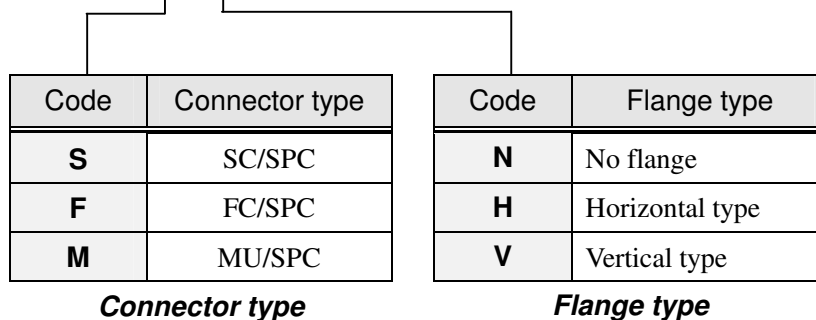


### Optical Fiber Characteristics

Parameter	Min.	Typ.	Max.	Unit
Fiber type	Single mode			---
Mode field diameter	8	9	10	μm
Clad diameter	123	125	127	μm
Concentricity error	---	---	1	μm
Cladding non-circularity	---	---	2	%
Mode field non-circularity	---	---	6	%
Cut off wavelength	1270	---	---	nm
Jacket diameter	0.8	0.9	1	mm
Bending Radius	20	---	---	mm
Tensile strength fiber case	5	---	---	N
Length	---	(1000)	---	mm
Connector	FC type / SPC			
	SC type / SPC			
	MU type / SPC			

### Ordering information

**DE-0783-**□□



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