

## Long Wavelength PIN Photodiode for Wide Frequency-range CATV Receiver (Receptacle Module)

### HEPDR-2020XX

#### Features:

- ◆ Low Return Loss
- ◆ Low Dark Current
- ◆ Quick Pulse Response
- ◆ Suitable for CATV Application
- ◆ High Responsivity at 1310nm and 1550nm, High Linearity
- ◆ High Reliability and Long Operation Life
- ◆ RoHS Compliant Products Available



#### Applications:

- ◆ Analog Optical Receiver
- ◆ Test Equipments

#### General:

HEPDR-2020XXX InGaAs PIN Photodiode series are high quality analog photodetectors designed for AM CATV receiver applications.

A photodiode is mounted into a low capacitance coaxial package integrated with a receptacle.

#### Ordering Information: (Standard version <sup>\*Note1</sup>)

Part No.	Wavelength (nm)	Explore Area (um)	Bandwidth (GHz)	Package	Pin Type
HEPDR-2020AM	1310~1550	75	2	A	M
HEPDR-2020DM	1310~1550	75	2	D	M

\*Note1: For more ordering information, please refer the nomenclature and contact HighEasy sales.

### Absolute Maximum Ratings:

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	$T_{ST}$	-40	100	$^{\circ}C$
Operating Temperature	$T_{OP}$	-40	85	$^{\circ}C$
Reverse Voltage	VR	---	20	V
Saturation Input Power	$P_{IN}$	---	10	dBm
Soldering Temperature / Time	Ts/t	---	260/10	$^{\circ}C/s$

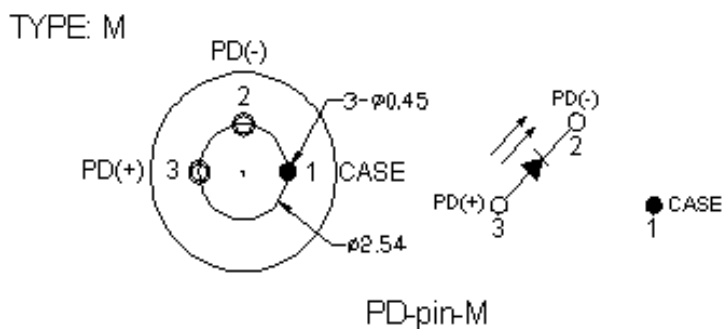
### Electrical and Optical Characteristics:

( $V_R=5V$ ,  $T_c=+25^{\circ}C$ , unless otherwise noted.)

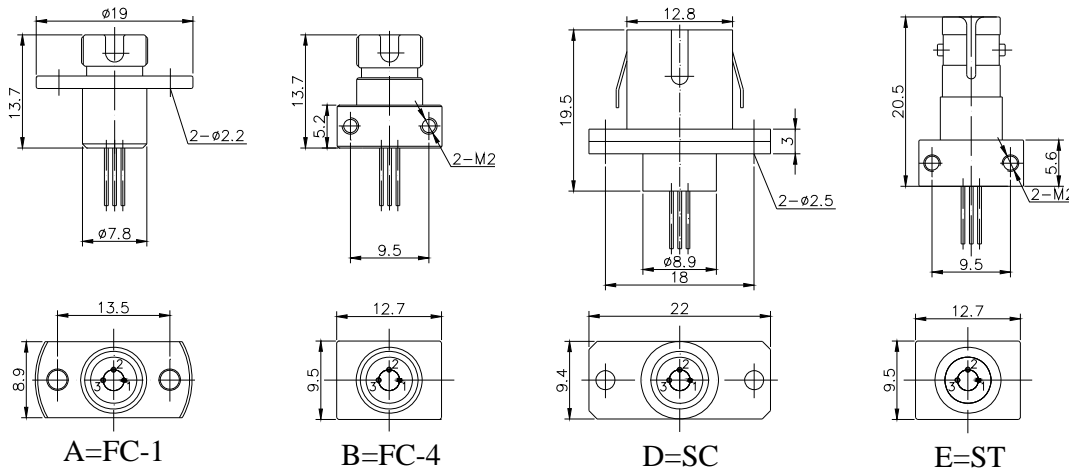
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Detection Wavelength Range	$\lambda$	---	1100		1650	nm
Active Diameter	DA	---	---	75	---	$\mu m$
Responsivity	R	VR=-5V@1310nm	0.80	0.85	---	A/W
		VR=-5V@1550nm	0.85	0.90	---	A/W
Return Loss	RL	---	---	---	-45	dB
Dark Current	$I_d$	VR = 5V	---	0.1	1	nA
Capacitance	$C_p$	VR = 5V	---	0.6	0.7	pF
Bandwidth	BW	VR=5V	---	2	---	GHz
IMD2	CSO	$\lambda=1310nm$ (*Note2)	---	-75	-70	dBc
IMD3	CTB		---	-85	-80	dBc

\*Note2: IMD2 measured at  $V_R=12V$ ,  $\lambda=1550nm$ ,  $P_{avg}=0dBm$ ,  $MI=0.7$ ,  $R=50\ \Omega$ ,  $f_1+f_2=850MHz$ ,  $f_1-f_2=50MHz$  (Test frequency:  $f_1=450MHz$ ,  $f_2=400MHz$ ). All are measured at  $25^{\circ}C$

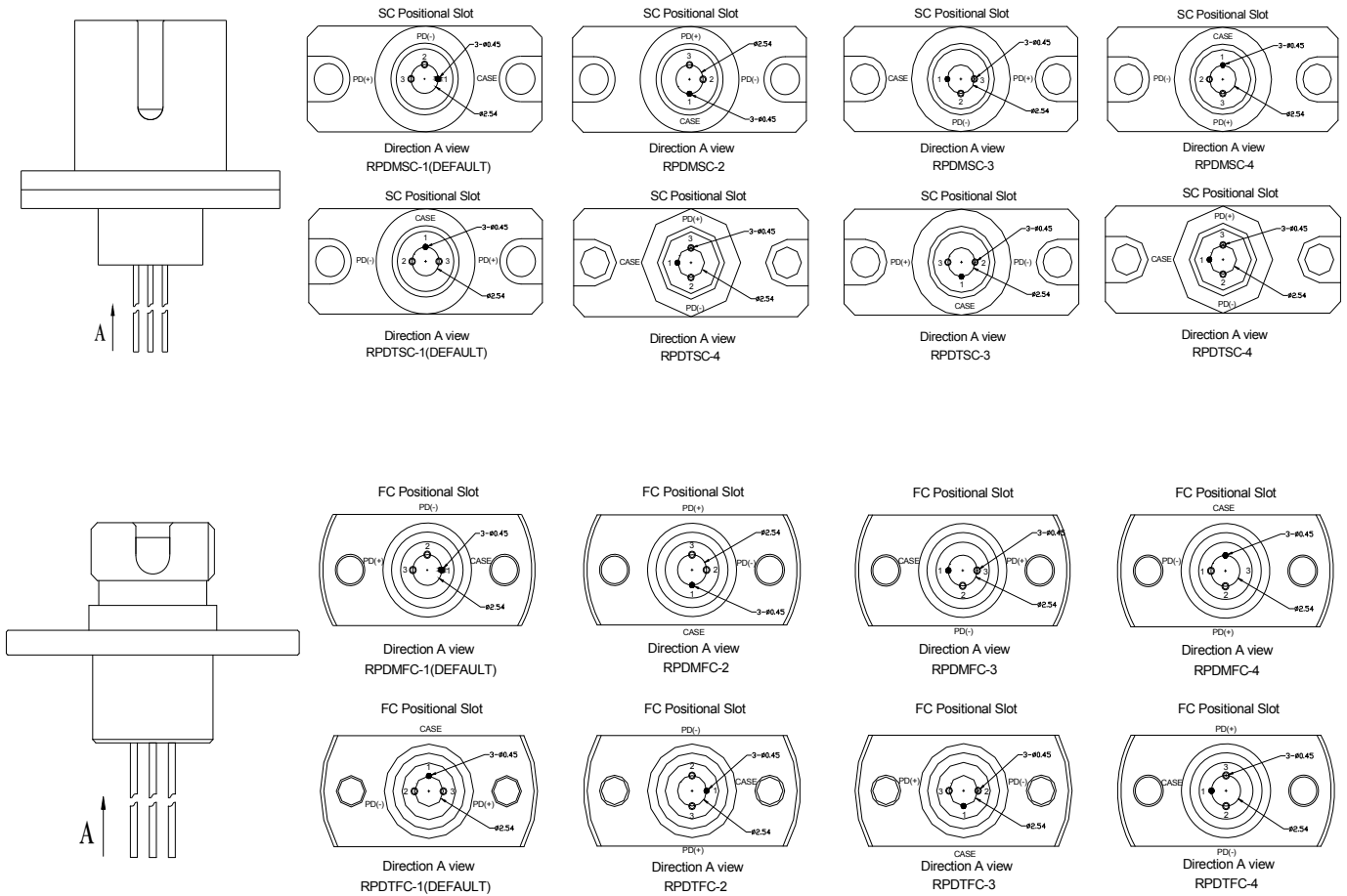
### Pin Assignment:

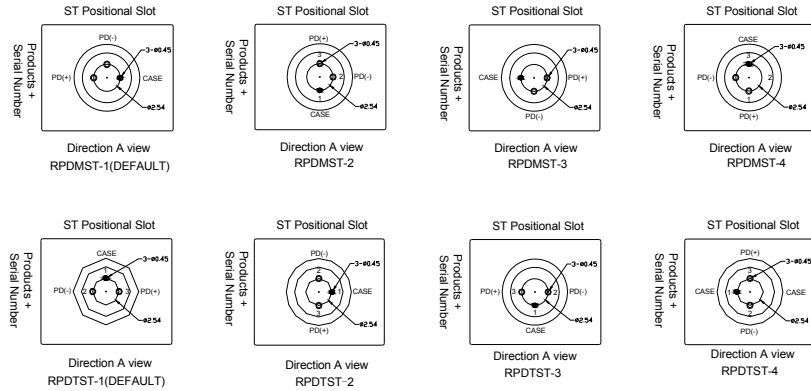
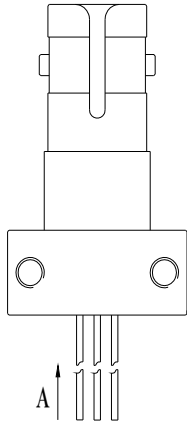


Receptacle Package Series:



The Direction of Fix Card:





**Nomenclature:**

HEPDR-                   
           A    B    C    D    E    F

<b>A</b>	<b>Wavelength</b>	20=1100~1650nm		
<b>B</b>	<b>Explore Area</b>	2=75μm		
<b>C</b>	<b>RF Bandwidth</b>	0≤2GHz		
<b>D</b>	<b>Package Series</b>	A=FC-1/APC	B=FC-4/APC	E=ST/PC
		D=SC/APC Metal shell		H=SC/APC plastic shell
<b>E</b>	<b>Pin Type</b>	M=PD-pin-M		
<b>F</b>	<b>Fiber Diameter</b>	Blank=SM		M=MM

**Precaution:**

- (1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

**Notice:**

HighEasy reserves the right to make changes or discontinue any product or service identified in this publication, without notice, in order to improve design and/or performance. Applications that are described herein for any of the products are for illustrative purposes only. HighEasy makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.