


**PDINV300 Series 300 Micron InGaAs Detectors**

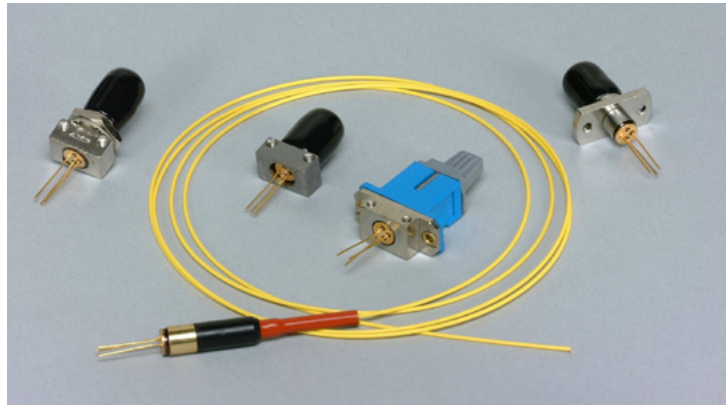
NECSEL offers a variety of standard and custom PIN Photodiodes and APDs in fiber coupled packages. The semiconductors offered are of proven manufacture and design. Our Silicon devices cover the optical spectrum from 400 to 1100nm, InGaAs is optimal from 1100 to 1650nm and Germanium is suitable from 800 to 2100nm. All devices are available in fiber pigtailed co-axial packages or in connector style receptacle packages.

**Pigtailing**

Devices can be pigtailed with any size optical fiber that is compatible with its active area size. Pigtailed may range in core size from 3um to 100micron. One meter is the standard length, but any length or connector termination may be specified. Pigtailed may be terminated

**Receptacles**

Standard ST, FC and SC housings are available in both panel and board mountable versions. These receptacles can be optimized for use with both single mode and multimode optical fibers.


**Low Back Reflection Assemblies**

For those applications requiring low optical back reflection, NECSEL offers a series of fiber pigtailed InGaAs detectors. Typically, 55 um or 75um InGaAs detectors are aligned to angle-polished, radially tuned fiber pig-tails, in order to minimize incident reflected light. With this process, back reflection values from -40 to -50dB maybe specified. Such devices are ideal for CATV, tap monitor and high speed digital applications.

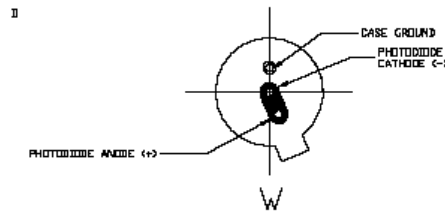
**Manufacturing**

NECSEL maintains a large inventory of the most popular detector sizes and pin-outs. Efficient package designs and manufacturing processes allow NECSEL to rapidly support both small and large volume requirements. Complete 100% testing of all critical parametric device values ensure optimal performance and quality. Not all receptacle packaging styles are represented on this data sheet, so please contact NECSEL for specific needs.

NECSEL Part Number	Active Area (µm)	Responsivity Min. A/W	Capacitance <sup>1</sup> Typ. Max pF	Dark Current Typ. Max pA	Bandwidth -3dB Typ. MHz	Pin-Out
<b>InGaAs (@ 5V bias, 1300nm Laser Source, 25°C</b>						
<b>Note<sup>1</sup> f=1MHz</b>						
	300	0.85	4.0 6.0	100 600	600	W
PDINV300100A-0-0-01	Pigtailed Assembly with 1m long 9/125/900um SMF with no termination					
PDINV300FC11-M-0	FC Panel Mount Receptacle Housing tested with 9/125um SMF					
PDINV300FC21-M-0	FC Board Mount Receptacle Housing tested with 9/125um SMF					
PDINV300SC63-M-0	SC Board Mount Receptacle Housing tested with 62.5um MMF					
PDINV300ST63-M-0	ST Board or Panel Mount Receptacle Housing tested with 62.5um MMF					

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**Pinout**


Pigtails				Receptacle			
P DXXKAAAFCCB-O-V-M				PDXXKAAACCCF-O-V			

Device Type XX	Device Code K	Active Area AAA	Fiber Size F (µm)	Connector CC Pigtail Only	Receptacle CCC	Bracket B Pigtail Only	Orienta- tion O	Pigtail Length M
IN=InGaAs PIN	V	300=300microns	1=9/125/900	FC=FC/PC	FC1=Panel Mount	A=None	M Ground at 9:00	10=10m
			2=50/125/900	FA=FC/APC	FC2=Board Mount	B=102-10112 Panel	S Ground at 4:30	03=3m
			3=62.5/125/900	SC=SC/PC	ST6= Long Snout	C=102-10181 BdMt		01=1m
			4=100/140/900	SA=SC/APC	ST7=Low profile	D=102-10198 BdMt		.5=0.5m
			9= customer supplied	ST=ST/PC	ST8=High profile	W=Bracket Shipped Separately		.1=0.1m
			A=200/240/900		SM1=SMA Board Mount	X=Customer Supplied		
			D=105/125/900		SC6= SC Board Mount			
		M=6.2/125/900 1060-XP Fiber 6.2µm MFD at 1060nm						

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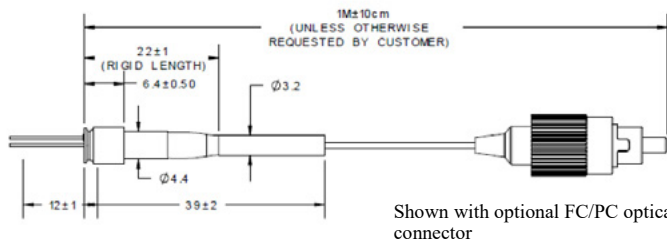
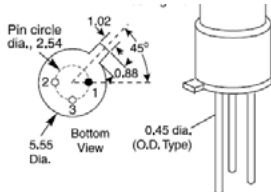
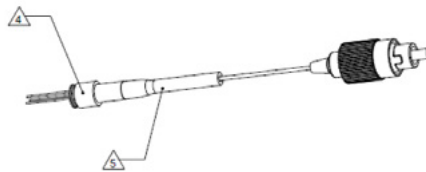
## Fiber Pigtailed Assembly

**NOTES:**

- 1 THESE DEVICES ARE ESD SENSITIVE. ESD PRECAUTIONS ARE ADVISED.
- 2 ALL DEVICES ARE SHIPPED WITH ESD LEAD PROTECTORS AND DUST COVERS.
- 3 ALL DEVICES WILL BE MARKED WITH A PD-LD SERIAL NUMBER.

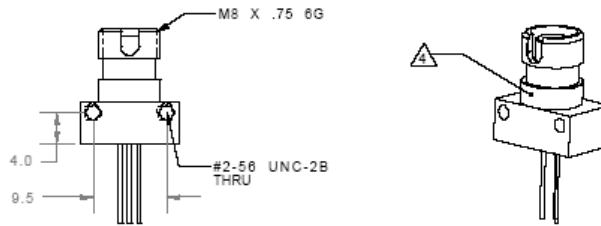
▲ 303SS

▲ SILICONE RUBBER, RED

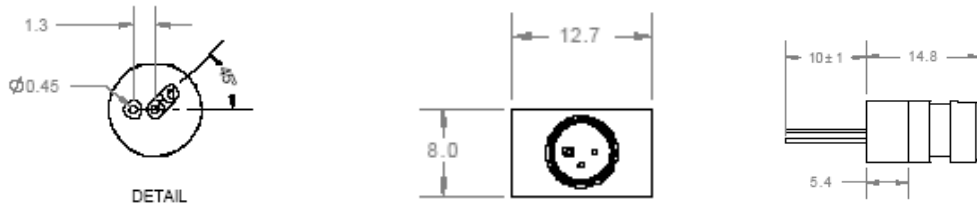
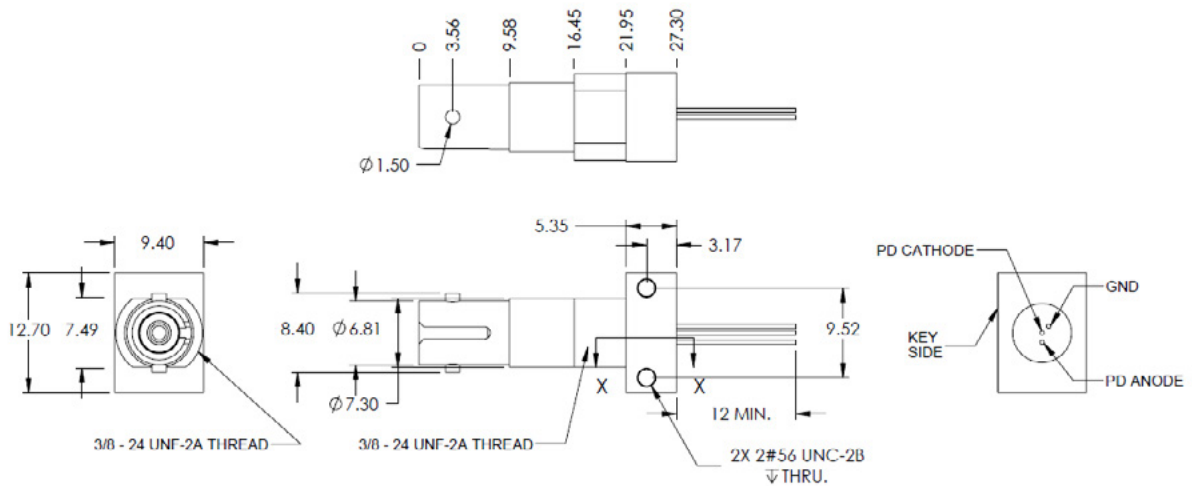


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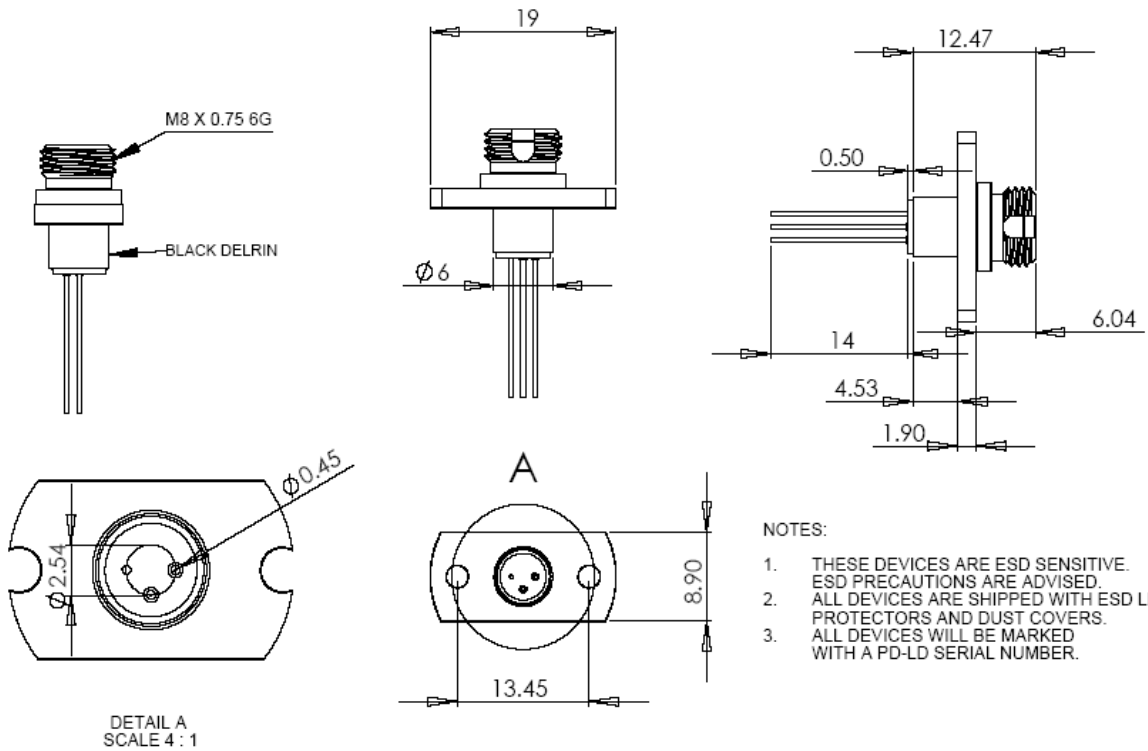

**PDINV300 Series 300 Micron InGaAs Detectors**
**FC Board Mount Receptacle with M Orientation**


Key Slot at 12:00 and Ground at 9:00 for M orientation

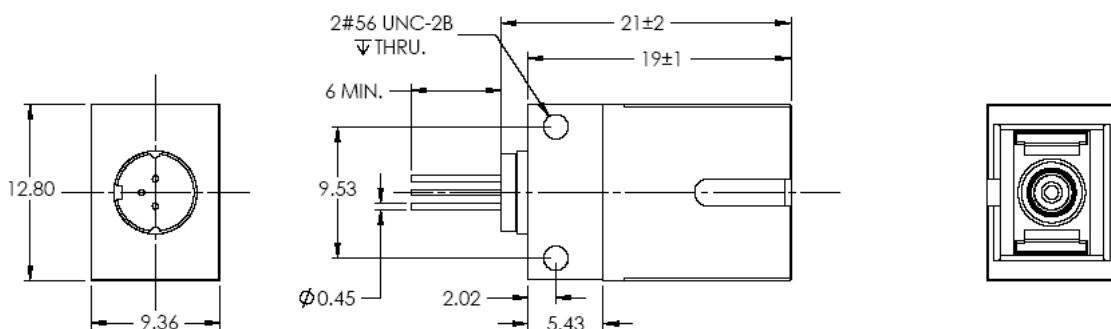

**ST6 Board Mount Receptacle with S Orientation**


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**PDINV300 Series 300 Micron InGaAs Detectors**
**PDINV300FC11-M-0**  
**FC Vertical/Panel Mount Style receptacle**  
 (Please note "W" pin-out would apply)

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**SC6 Style Board Mountable Receptacle with "M" Lead Orientation**


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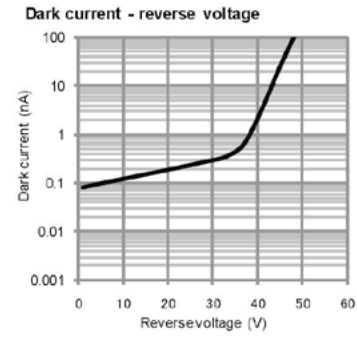
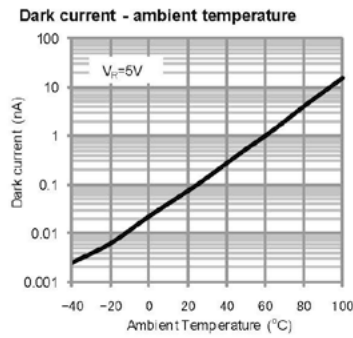
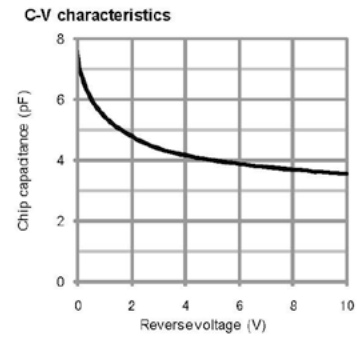
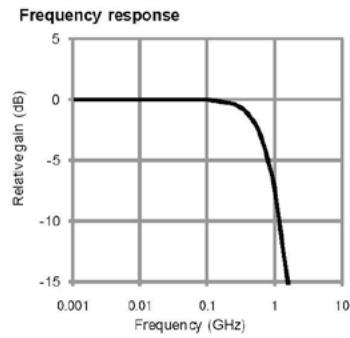
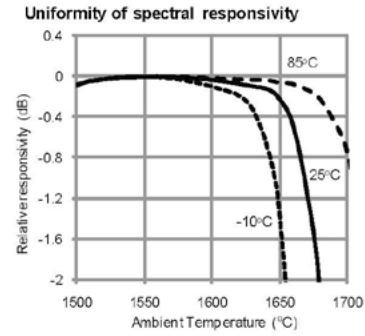
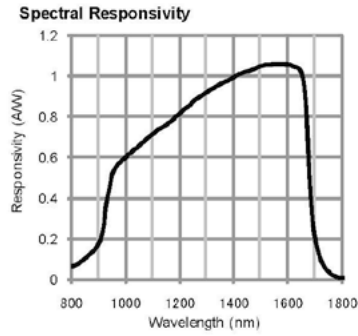

**PDINV300 Series 300 Micron InGaAs Detectors**
**Electrical and Optical characteristics (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	300			μm	
Bandwidth	BW	400	600		MHz	P <sub>i</sub> =-10dBm, small signal modulation, V <sub>R</sub> =5V
Responsivity	R	0.8	0.9		A/W	λ= 1310nm, V <sub>R</sub> =5V
		0.9	1.0			λ= 1550nm, V <sub>R</sub> =5V
Dark current	I <sub>D</sub>		100	600	pA	V <sub>R</sub> =5V
Chip capacitance	C <sub>chip</sub>		4.0	6.0	pF	V <sub>R</sub> =5V, f=1MHz
Total capacitance	C <sub>t</sub>		4.0	6.0	pF	V <sub>R</sub> =5V, f=1MHz
Responsivity uniformity	ΔR			0.5	dB	λ= 1530-1610nm T <sub>opr</sub> = -10 to +85°C

Parameter	Min	Max	Unit
Forward Current	-	25	mA
Reverse Current	-	5000	uA
Reverse Voltage	-	20	V
Optical Input Power	-	25	mW
Operating Case Temperature	-40	85	C
Storage Temperature	-40	85	C
Soldering Temperature ( 10 seconds)		250	C

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