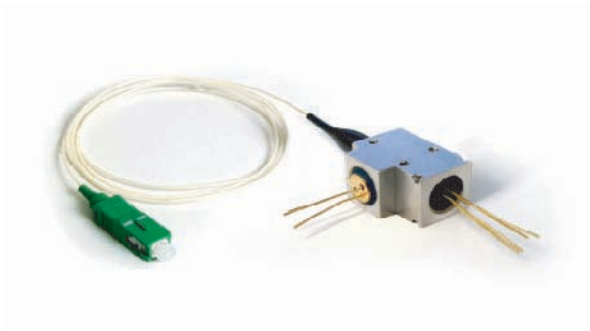


## ODP-43-PE

**Features**

- Low cost 1490 DFB TX, 1310 nm RX design
- High Isolation
- 0 to 70°C operation
- TX data rates up to 1250 Mbps
- Multiple Burst Receive TIA versions available
- Compliant to ITU-T G.983.3 FSAN @ 155 and 622 Mbps

**Absolute Maximum Ratings**

Parameter	Min	Typical	Max	Units
Operating Temperature(case)	0	-	70	°C
Storage Temperature	-40	-	85	°C

**Module Requirements**

Parameter	Min	Typical	Max	Units
1490 TX to 1310 RX crosstalk	-	-60	-47	dB
Back Reflection @ 1310 nm	-	-20	-20	dB
Back Reflection @ 1490 nm	-	-6	-6	dB

**Transmitter Requirements**

Parameter	Symbol	Min	Typical	Max	Units
Wavelength	$\lambda$	1480	1490	1500	nm
Spectral Width (-20 dB)	$\Delta\lambda$	-	-	1	nm
Side Mode Supression ratio	SMSR	30	-	-	dB
1/2 P <sub>peak</sub> set point @ 25°C (FSAN)	P <sub>set</sub>	-	1.5	-	dBm
1/2 P <sub>peak</sub> over temp and EOL (FSAN)	P <sub>ave</sub>	-0.5	-	4	dBm
Bias Current	I <sub>bias</sub>	6	-	70	mA
Bias Current@EOL	I <sub>bias,EOL</sub>	-	-	100	mA
Modulation Current	I <sub>mod</sub>	10	-	80	mA
PD Monitor Current	I <sub>PD,mon</sub>	50	-	1000	μA
Forward Voltage	V <sub>f</sub>	-	1.2	1.8	Volts
Rise/Fall Time <sup>a</sup>	tr/tf	-	-	0.5	ns
PD Dark Current	I <sub>PD, dark</sub>	-	-	1	μA
PD Capacitance	C <sub>PD</sub>	-	10	15	pF

<sup>a</sup> 10% to 90%

## ODP-43-PE

Digital Receiver Characteristics (155 Mbps)

Parameter	Symbol	Min	Typical	Max	Units
Detection Wavelength	$\lambda$	1260	-	1360	nm
Gain differential	G	20	-	-	mV/ $\mu$ W
Supply Voltage	$V_{CC}$	3	5.0	5.5	V
Supply Current ( $V_{CC}=5V$ ) <sup>a</sup>	$I_{CC}$	20	38	60	mA
Supply Current ( $V_{CC}=3.3V$ ) <sup>a</sup>	$I_{CC}$	20	35	50	mA
High Frequency -3 dB point <sup>b</sup>	$f_{-3dB(h)}$	100	130	-	MHz
Single-ended output voltage(p-p) <sup>c</sup>	$V_{o(se)(p-p)}$	40	110	200	mV
Single-ended output resistance <sup>d</sup>	$R_{o(se)}$	36	44	57	Ohm

a) AC Coupled;  $R_L=50$  Ohm

b) AC coupled; measured differentially;  $C_i=0.7$  pF;  $R_L=50$  Ohm;  $T_j=100^\circ\text{C}$

c) AC coupled;  $R_L=50$  Ohm; input current =  $100 \mu\text{A}_{(p-p)}$

d) DC tested

Digital Receiver Characteristics (622 Mbps)

Parameter	Symbol	Min	Typical	Max	Units
Detection Wavelength	$\lambda$	1260	-	1360	nm
Gain differential	G	10	-	-	mV/ $\mu$ W
Supply Voltage	$V_{CC}$	3	5.0	5.5	V
Supply Current ( $V_{CC}=5V$ ) <sup>a</sup>	$I_{CC}$	23	28	45	mA
Supply Current ( $V_{CC}=3.3V$ ) <sup>a</sup>	$I_{CC}$	20	28	42	mA
High Frequency -3 dB point ( $V_{CC}=5V$ ) <sup>b</sup>	$f_{-3dB(h)}$	450	580	750	MHz
High Frequency -3 dB point ( $V_{CC}=3.3V$ ) <sup>b</sup>	$f_{-3dB(h)}$	440	520	600	MHz
Single -ended output voltage(p-p) <sup>c</sup>	$V_{o(se)(p-p)}$	75	200	330	mV
Single-ended output resistance <sup>d</sup>	$R_{o(se)}$	40	50	62	Ohm

a) AC coupled;  $R_L=50$  Ohm

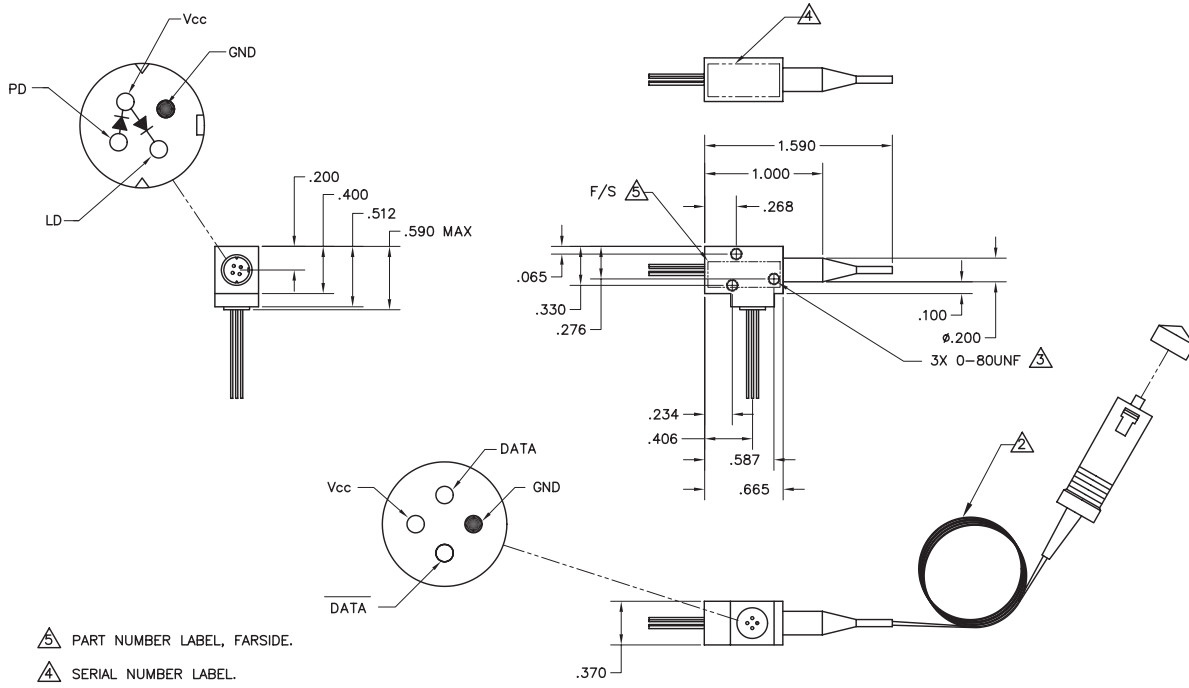
b)  $C_i=0.7$  pF

c) AC coupled;  $R_L=50$  Ohm; input current =  $100 \mu\text{A}_{(p-p)}$

d) DC tested

ODP-43-PE

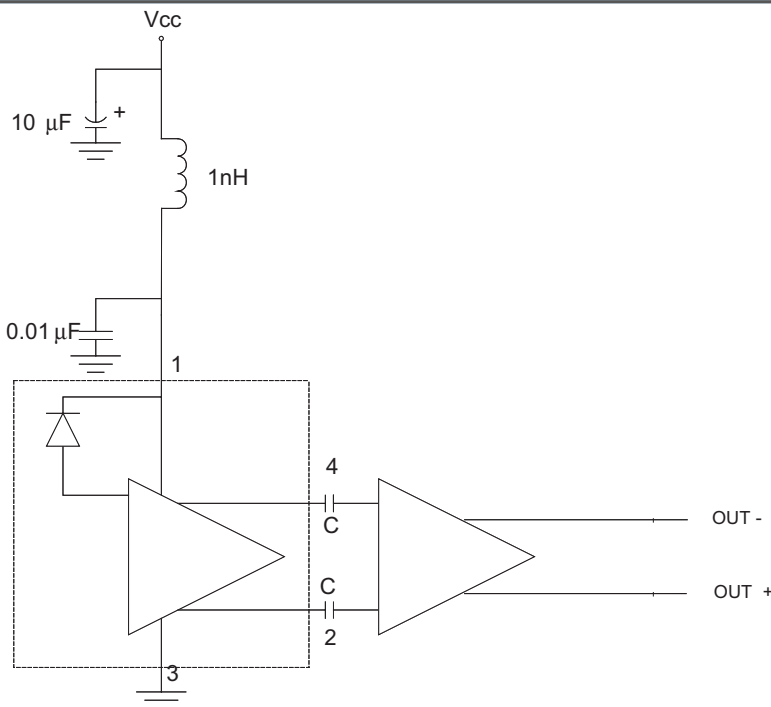
Mechanical Drawing



- ▲ PART NUMBER LABEL, FAR SIDE.
  - ▲ SERIAL NUMBER LABEL.
  - ▲ MAX TORQUE 2 IN/LBS.
  - ▲ 1.0 METER 900μM BUFFERED FIBER TERMINATED WITH SCA CONNECTOR OR UNLESS OTHERWISE SPECIFIED.
1. CUSTOMER MAKES ALL EXTERNAL CONNECTIONS TO FIBER COMPONENTS AND WIRING.

NOTES: UNLESS OTHERWISE SPECIFIED

Receiver Block Diagram



Luminent Optical block

Customer Interface

At 155 Mbps, C= 0.1 μF  
At 622 Mbps, C= 0.1 μF  
At 1250 Mbps, C= 0.022 μF

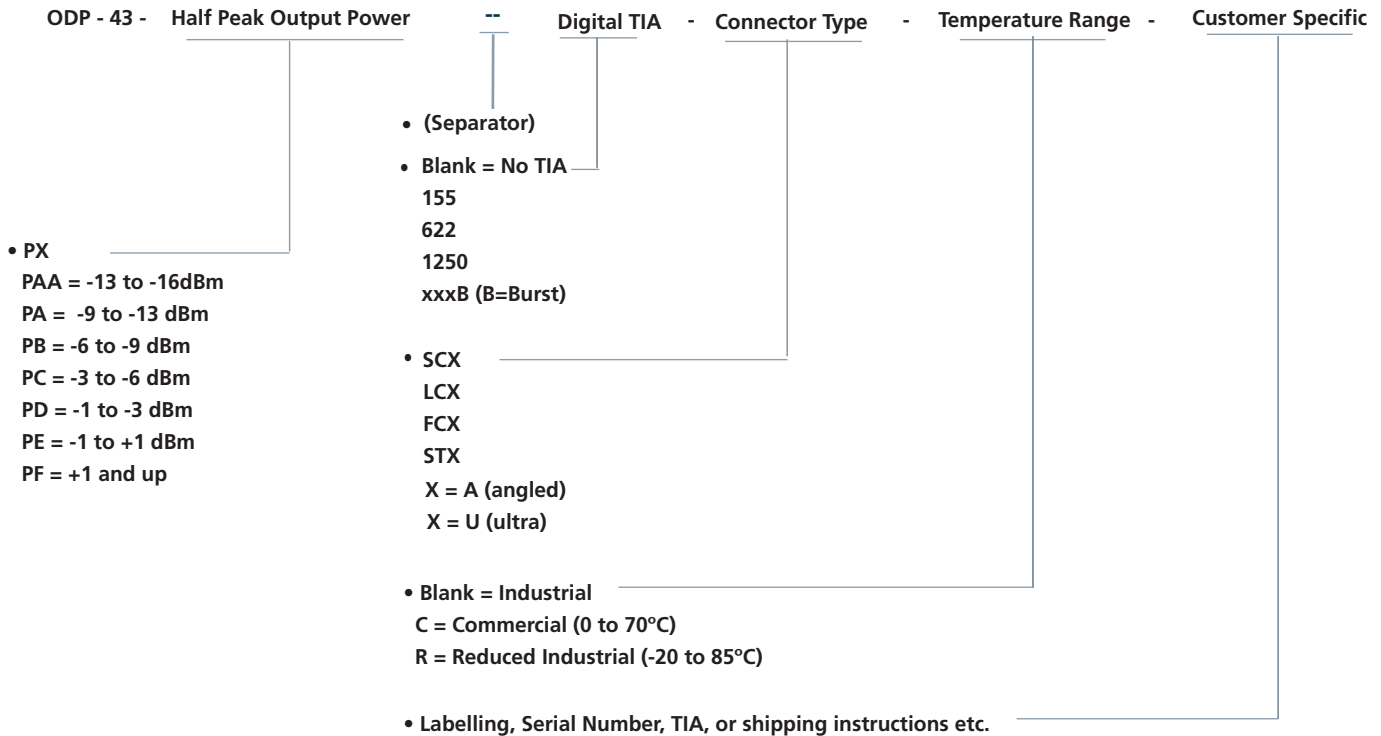
ODP-43-PE

Ordering Information

Available Options:

- ODP-43-PE--155x-C
- ODP-43-PE--622x-C
- ODP-43-PE--1250x-C

Part numbering Definition:



Warnings

**Handling Precautions:** This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

**Laser Safety:** Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Legal Notice

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