

# Preliminary Data Sheet

## PF03, PFO4 40-860 MHz. Ultra-linear Opto Receiver Amplifier



### Features

- Ultra High Linearity with Low Noise
- Independent DC Supply pin for Optical diode (PFO4 Model)

### Available connectors & applicable dash #'s

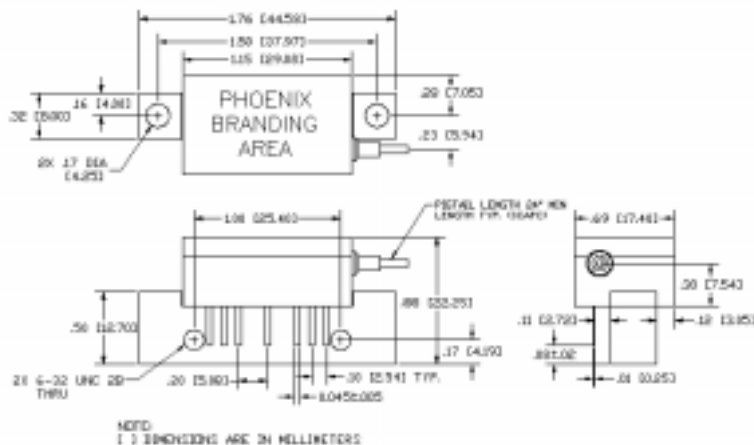
- FC/APC - FCAPC SC/APC - SCAPC
- FC/PC - FCPC ST - ST
- Unit without a connector has no dash number



### Electrical Specifications @ Tcase = 30°C (Referenced to 75 ohms)

Parameter	Typical Conditions	Min. Value	Max. Value	Units
Frequency Range		40	860	MHz.
Responsivity ( $R_\lambda$ )	$\lambda = 1300\text{nm.}$	800		V/W
Optical Wavelength ( $\lambda$ )		1290	1600	nm.
Spectral Density	$\lambda = 1310 \pm 20\text{nm.}$	0.85		A/W
	$\lambda = 1550 \pm 20\text{nm.}$	0.90		A/W
Gain Flatness (peak to valley)	f=40MHz To 860MHz. @ $\lambda = 1300$		1.0	dB.
Optical Input Return Loss	with SC/APC and FC/APC Connectors	40		dB.
Output Return Loss Referenced to 75 ohms	f= 40 To 860MHz.	16		dB.
3 <sup>rd</sup> Order Intermods (IMD <sub>3</sub> ) (Two laser test) Pin #1=1.0v	$f_1 = 326.25\text{MHz, } f_2 = 333.25\text{MHz, } f_3 = 335.25\text{MHz.}$ $P_{1,2,3} = 0.33\text{mw. } f_4 = f_1 + f_2 - f_3 = 324.25\text{MHz} = \text{meas. freq.}$	80		dBc.
2 <sup>nd</sup> Order Intermods (IMD <sub>2</sub> ) (Two laser test) Pin #1= 1.0v	$f_1 = 135\text{MHz, } f_2 = 189.25\text{MHz, } P_{1,2} = 0.50\text{mw.}$ $f_3 = f_1 + f_2 = 324.25\text{MHz} = \text{meas. frequency}$	70		dBc.
Optical Power Monitor Voltage @ Pin #1)	Pin #1 internally connected to a 10K $\Omega$ series R to measure photo diode current across a 1K $\Omega$ to ground	0.8		V/mW.
Equivalent Input Noise ( $E_{in}$ )	$f_1 = 40\text{MHz.}$		7.0	pA/ $\sqrt{\text{Hz.}}$
Total Current ( $I_{TOT}$ )	@ Voltage of +24v		240	mA.

### Outline Drawings



### Maximum Ratings

- Storage Temperature ..... -40°C to +85°C
- DC Voltage ..... +28 volts
- Optical Input Power ..... +10 dBm.
- Operating Base Temperature -20 to +85°C
- Fiber Bending Radius ..... 1.3" min.
- Fiber Pull Strength ..... 0.5kgrams

### Pin Configuration

Pin #	Description
1	monitor current
2,3,7,8	Ground
4 (PFO4 only)	Optical diode detector +V
5	RF Amplifier +V
6	not used
9	Output