10458

PIN Microwave Photodiode Receiver

MICROWAVE

Features

- Highly reliable planar photodiode technology
- High power capability
- Bandwidth up to 22 GHz
- Good RF matching, 12 dB typ.

Applications

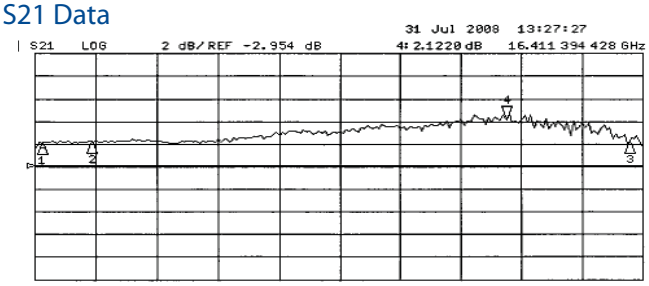
- Antenna Remoting
- Military Communications
- Phased Arrays
- EW
- Delay Lines for Radar Calibration

The 10458 PIN microwave photodiode receiver incorporates a high-speed planar PIN photodiode, with low-noise bias and monitor electronics. The units installs in Emcore's System 10000 3RU equipment rack providing a highly reliable, high-power photodiode receiver. The receiver is well matched over the operating frequency band, thereby simplifying high-speed integration.

Performance Highlights

Parameter	Min	Typical	Max	Units
Storage Temperature	-40	-	+85	°C
Operating Temperature	-10	25	+50	°C
Responsivity	0.7	-	-	A/W
Receiver Gain (1 GHz)	-9.1	-	-	dB (A/W)
Dark Current (25C)	-	-	5	nA
Max Current	-	-	10	mA
Optical Input	-	-	11	dBm
RF Return Loss	8	12	-	dB
Optical Wavelength Range	1280	-	1580	nm
Optical Return Loss	-	-	-40	dB

Typical S21 Data



50 MHz 22 GHz

RF Characteristics

Parameter	Symbol	Condition	Min	Typical	Max	Units
Bandwidth	f_{3dB}	10458C 10458D 10458E 10458F	0.05 0.05 0.05 0.05	- - - -	5 10 20 22	GHz
Impedance	Z	Resistively matched SMA connector	-	50	-	Ohm
S21 Flatness	-	50 MHz – 10 GHz (C & D) 50 MHz – 20 GHz (E) 50 MHz – 22 GHz (F)	- - -	2 3 5	4 5 6	dB p-p

Specified characteristics apply for the recommended operating conditions at beginning of life, 25°C, unless noted otherwise.

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Ordering Information

Model Number	Description
10458C-SA	Receiver 5 GHz, SMA, AC Coupled, SC/APC
10458C-FA	Receiver 5 GHz, SMA, AC Coupled, FC/APC
10458D-SA	Receiver 10 GHz, SMA, AC Coupled, SC/APC
10458D-FA	Receiver 10 GHz, SMA, AC Coupled, FC/APC
10458E-SA	Receiver 20 GHz, SMA, AC Coupled, SC/APC
10458E-FA	Receiver 20 GHz, SMA, AC Coupled, FC/APC
10458F-SA	Receiver 22 GHz, SMA, AC Coupled, SC/APC
10458F-FA	Receiver 22 GHz, SMA, AC Coupled, FC/APC
10990A	System 10000 Equipment Chassis
10901G-NA	System 10000 Power Supply, US Power Cord
10901G-UK	System 10000 Power Supply, UK Power Cord
10901G-EU	System 10000 Power Supply, EU Power Cord

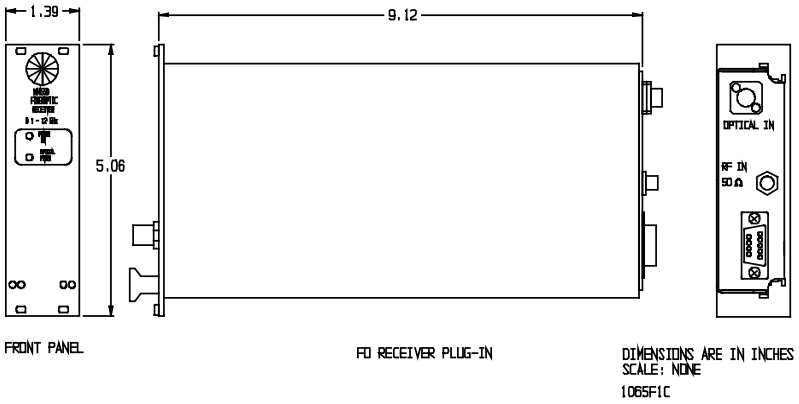
Pinout

Pin Number	Description
1	+15VDC
2	No Connection
3	No Connection
4	Ground
5[1]	Ground
6[1]	Photodiode Current Monitor 1v / 1 mA
7[1,2]	Received Optical Power Alarm
8[1]	No Connection
9[1]	No Connection

1. Pins 5 - 9 can be be monitored at the rear of the System 10000 chassis

2. Open collector alarm, external 1K pull-up requred capable of sinking 20 mA.

Outline Drawing



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