

R2560A High-Power 12 GHz Photodiode



Features

- Highly reliable planar photodiode technology
- High power capability
- dc coupled
- High breakdown voltage
- Bandwidth >13 GHz typical
- Good RF match: >13 dB typical return loss
- Hermetically sealed

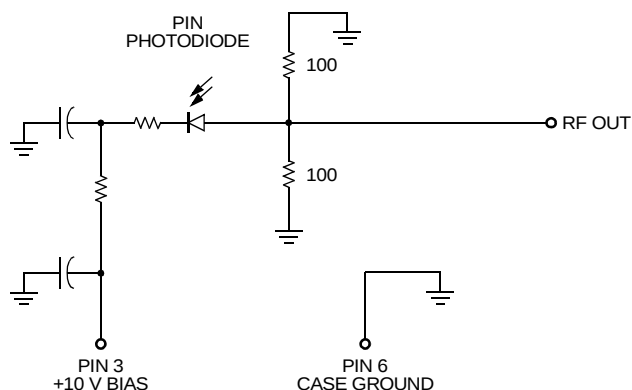
Applications

- Optically amplified systems (following EDFA or Raman amplifiers)
- Linear receiver applications
- FEC and Super-FEC to 12.5 Gbits/s

Description

The R2560A incorporates a high-speed planar PIN diode to provide a highly reliable, high-power photodiode module. This module is well suited for receiver applications with optical preamplification. The diode is well matched over the operating frequency band, thereby simplifying high-speed integration.

Block Diagram



1-1176 (F)

Pin Information

Table 1. Pin Descriptions

Pin No.	Description
1	NC
2	NC
3	10 V (VPD)
4	NC
5	NC
6	Ground

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

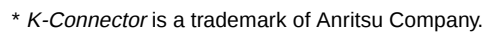
Parameter	Symbol	Min	Max	Unit
Operating Temperature Range	TOP	0	70	°C
Storage Case Temperature Range	Tstg	−40	85	°C
Photodiode Bias Voltage	VPD	—	15	V
Average Optical Input Power	PIN	0	12	dBm

Characteristics

Table 2. Electrical/Optical Characteristics (at 25 °C Case Temperature)

Parameter	Symbol	Min	Typ	Max	Unit
Optical Wavelength Range	λ	1280	—	1580	nm
Gain into a 50 Ω Load for a Given Input Optical Power Level	G	17.5	—	—	V/W
Responsivity	R	0.7	0.8	—	A/W
Dark Current	ID	—	—	1	nA
Breakdown Voltage (IR = 10 μ A)	VBR	25	—	—	V
High Frequency Cutoff −3 dB relative to 100MHz	FHIGH	12	13	—	GHz
Low Frequency Cutoff	FLOW	—	—	0	kHz
Group Delay Variation (0.5 GHz— 13 GHz) Relative to 2 GHz	—	−10	—	20	ps
RF Output Return Loss (0.1 GHz—13 GHz)	RLRF	10	13	—	dB
Optical Return Loss	RL	35	—	—	dB
Photodiode Supply Voltage (VPD)	VPD	8	10	12	V

Dimensions are in inches and (millimeters).



Agere Systems Inc.

Ordering Information

Table 3. Ordering Information¹

Device Code	Description	Connector	Pigtail	Comcode
R2560A023	12 GHz Photodiode	FC/SPC	SMF-28 ² (1 m min.)	108870056

1. Other options available. For additional ordering information, please contact a Lucent account manager at Microelectronics Group, Optoelectronics Division, Opto West, 1-800-362-3891 (for sales staff, please press option 2).

2. SMF-28 is a trademark of Corning Incorporated.

For additional information, contact your Agere Systems Account Manager or the following:

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