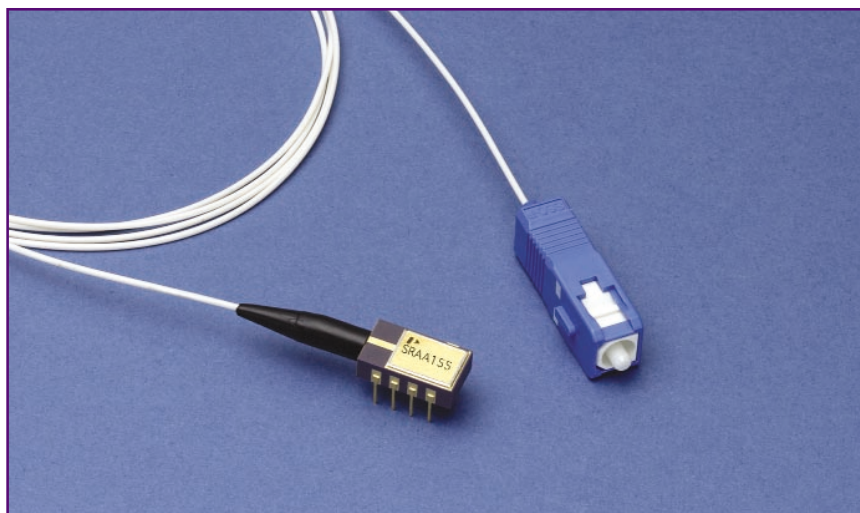




SR MiniDIL APD Series

SRAA 155, 622, 1.2

Fiber-Optic Receiver Modules



Description

The SRAA series incorporates a high-speed InGaAs photodiode with a GaAs transimpedance amplifier in an 8 pin miniDIL package for digital communication applications. This series of fiber-optic receiver modules conforms to Synchronous Optical Network (SONET) requirements for OC-3, 12 (155, 622 Mbps) and OC-24 (1.2 Gbps) receivers used in long-range, intermediate-range and short-range applications. The transimpedance amplifier with automatic gain control provides a cost-effective upgrade path from PIN photodiodes for applications such as ATM-SDH transmission equipment, Fiber Channel, FDDI, 100 Mbps Ethernet, or custom fiber optics. Receiver modules are available in industry-standard fibered packages with either multi-mode or single-mode pigtail.

Committed to supplying the highest quality products, PerkinElmer Optoelectronics is certified to meet ISO 9001. The SRAA series is designed to satisfy Telcordia quality specification GR-468-CORE. All devices undergo periodic process qualification programs to assure high reliability.

Applications

- Long haul transmission equipment
- Digital video
- Fiber channel test equipment

Features

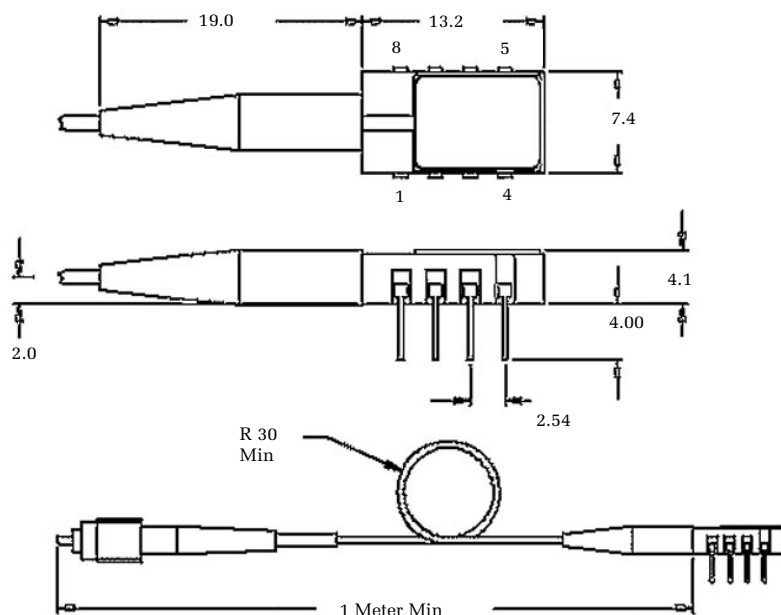
- InGaAs APD detector
- GaAs TIA
- 155, 622 Mbps and 1.2 Gbps
- Automatic Gain Control
- Fibered and connectorized modules
- Internally beveled fiber for low return loss
- High reliability



SRAA 155, 622, 1.2

Figure 1. Top View and PIN-Out Table

All dimensions in mm. (nominal)



PIN #	DESCRIPTION
1	-HV
2	GND
3	GND
4	O/P
5	GND
6	GND
7	Vdd (5V)
8	GND

Specifications

Test conditions: $T=22^{\circ}\text{C}$, $V_{dd} = 5\text{ Volts}$, $R_L = 50\text{ Ohms AC}$. Limits applicable at 22°C (case temperature).

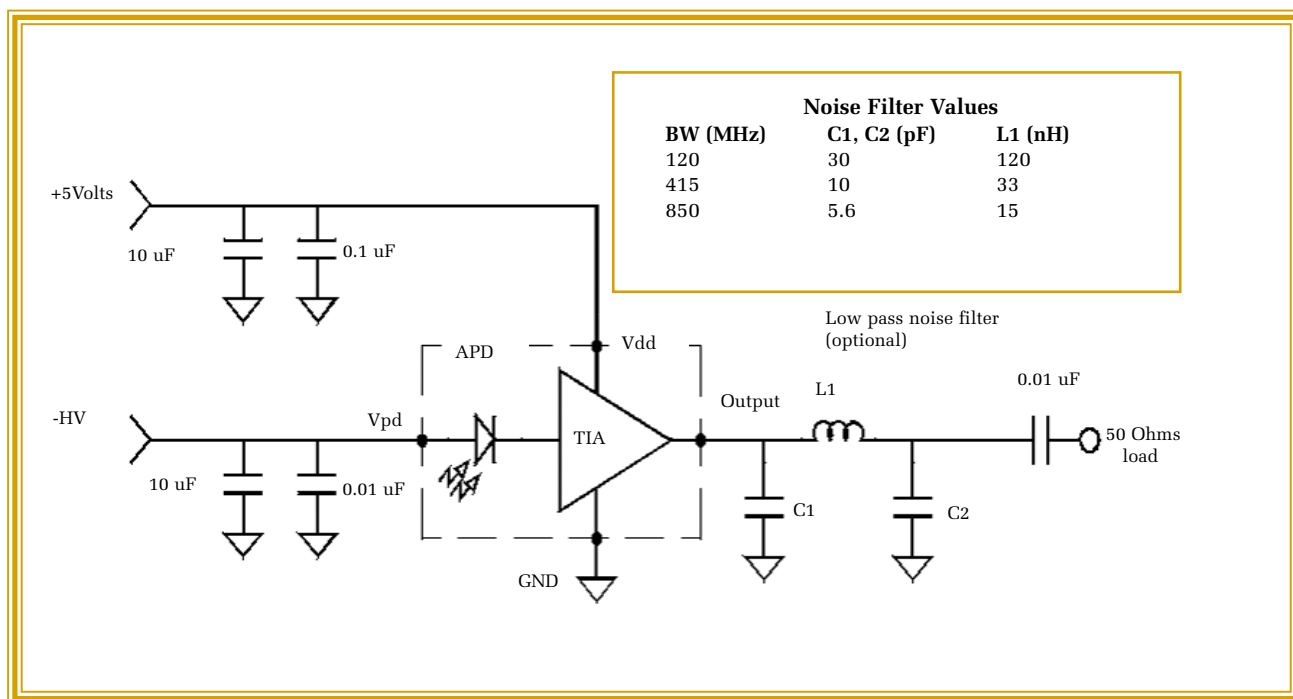
PARAMETER	SRAA155			SRAA622			SRAA1.2			Units
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
Bandwidth (-3dB, 50 Ohms)	100	120		400	415		840	950		MHz
Responsivity (1300 nm)		90			45			10		KV/W
Effective transimpedance		13			7			1.4		kOhms
Sensitivity (BER= 10^{-10})	-46	-48		-40	-42		-36	-38		dBm
Overload for APD gain of 3	-7	-4		-7	-4		-7	-4		dBm
AGC threshold power (-0.5dB)		-27			-26			-20		dBm
Output offset voltage		1.4			1.4			1.8		Volts
Output impedance	30	50	60	30	50	60	30	50	60	Ohms
Optical return loss	-27	-30		-27	-30		-27	-30		dB
TIA supply current		30	60		30	60		35	65	mA
TIA power dissipation		150	300		150	300		165	315	mW

Note: Sensitivity is tested at optimum APD voltage (supplied for each module; maximum APD voltage is -100 volts). Consult PerkinElmer Optoelectronics for typical performance characteristics over the operating temperature range.

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SRAA 155, 622, 1.2

Figure 2. Typical Connection Circuitry



Maximum Ratings

Supply Voltage (V_{dd})	7 Volts
Optical power	2 mW
Fiber bend radius	30 mm min.
Operating case temp.	0/70° C
Storage temperature	-40/85° C

Ordering Guide

Generic Device Type:

SRAA**BBB**-**FFCC**

Fiber Type: (core/cladding/buffer) (FF): 09: 9/125/900 μ m

Bit Rate: (BBB): **155:** 155 Mbps
622: 622 Mbps
1.2: 1.2 Gbps

Fiber Termination: **FC:** FC connector
SC: SC connector

PerkinElmer Optoelectronics reserve the right to change or amend specifications and/or configurations at any time without notice.

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