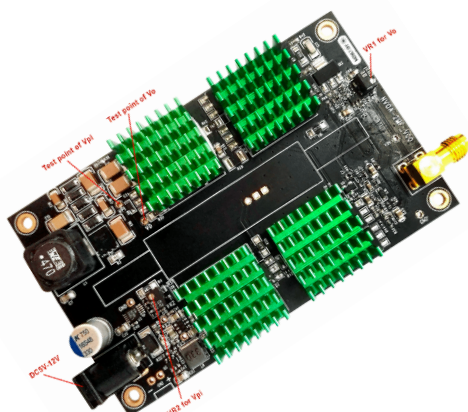


# 1MHz Driver for Premium NanoSpeed™ Variable Optic Attenuator



DATASHEET

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## Features

- Fast response
- High repetition rate
- Push-Pull output design
- Low quiescent power consumption

This NP series of fast-speed driver is designed to control the Premium NS series of solid state variable optic attenuators (VOA). The push-pull output design is especially suitable for driving capacitive VOA loads, assuring the fast response time both on rising and falling of attenuation. The VOA attenuation is controlled by 0-5V signal input. A wall plug power supply is provided for each driver.

The standard driver controls one individual VOA. Drivers controlling multiple VOAs are also available

## Specifications

Parameter	Conditions	Min	Typical	Max	Unit
DC supply	Operating Range	5.0	--	12.0	V
Signal input	Power supply = 12V	0	--	5	V
Input frequency	Power supply = 12V	0	--	1	MHz
Input impedance		10k	--	60k	Ohm
Input swing	100% output depth	0 ~ 3.6	0 ~ 5	0 ~ 10	V
Power consumption	frequency 100kHz	--	1.5	--	W
	frequency 500kHz		2.5		
	frequency 1MHz		4		
Output rising time	frequency 100kHz	--	250	350	ns
Output falling time	frequency 100kHz	--	250	350	ns
Output voltage		120	--	180	V

**Warning:** The device mounted on the PCB is an OEM module designed for system integration only, not for general uses. Do not touch the PCB by hand. The electrical static can kill the chips even without a power plug-in, and unpleasant electrical shock may also be felt. For laboratory use, please buy a protected Turnkey system.

**Legal notices:** All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

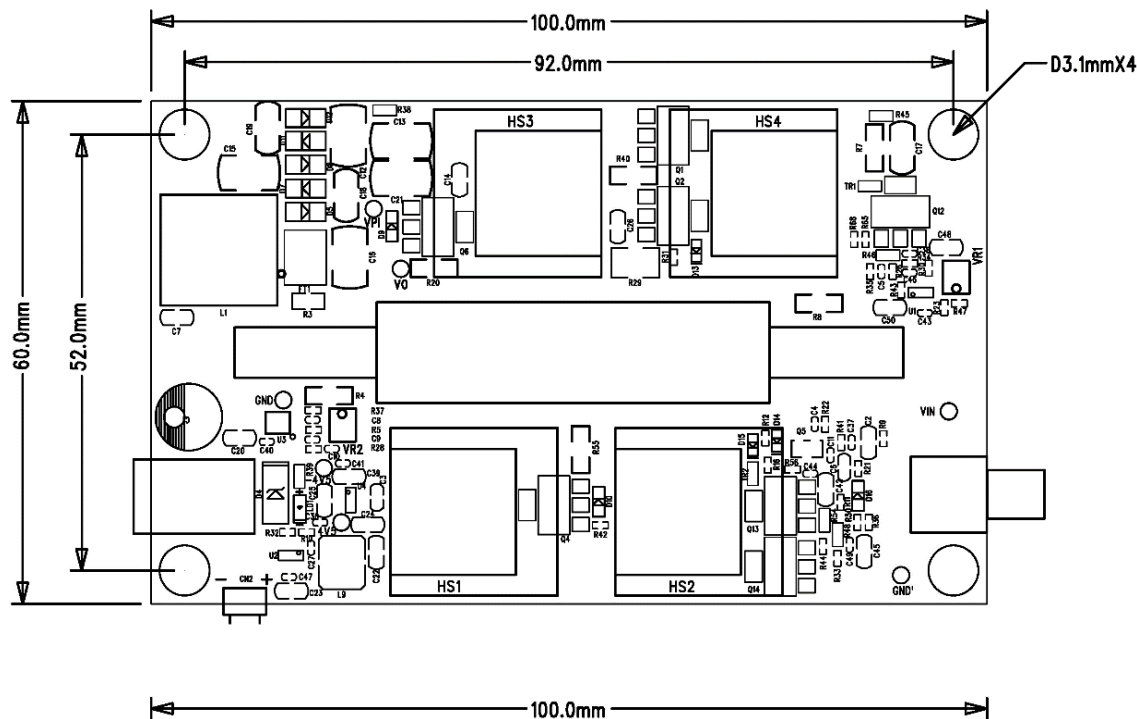
Rev 11/30/24

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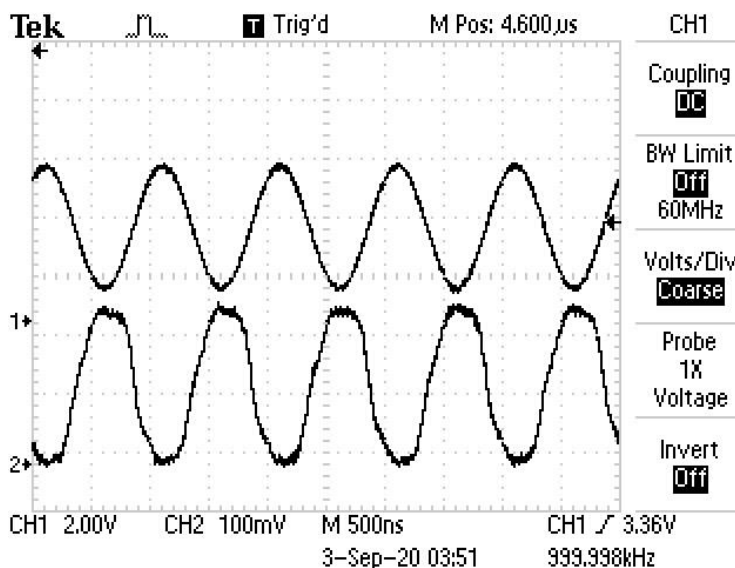
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### Mechanical Dimensions (mm)



\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

### Response (1MHz) up electric, bottom optic



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### Ordering Information

	1 P	H	2	H	1	1 1	<input type="checkbox"/>
Prefix	Type	Repetition		Size		# of VOA	Connector
NVDR-	NP type, single stage = 1P	DC-1MHz = H Special = 0		Standard = H Special = 0		Single VOA = 11 Special = 00	SMA = 2 Special = 0

#### Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

#### Fiber Cleanliness

Fibers with smaller core diameters (<5  $\mu\text{m}$ ) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

#### Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

### Typical Operation Instructions

1. Connect a control signal to the SMA connector on the PCB.
2. Attach the accompanied power supply (typically a wall-pluggable unit).
3. The device should then function properly.

**Note:** Do not alter device factory settings.

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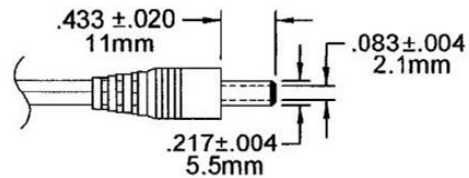
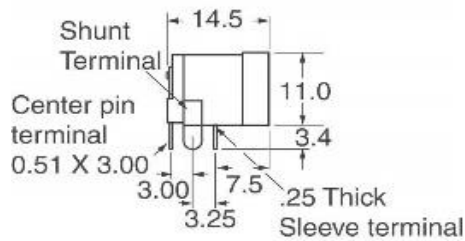
### DC Power Connection

#### Variation 1

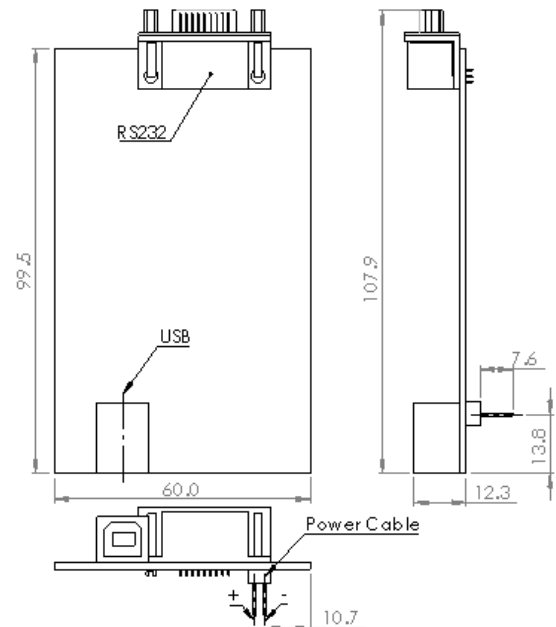
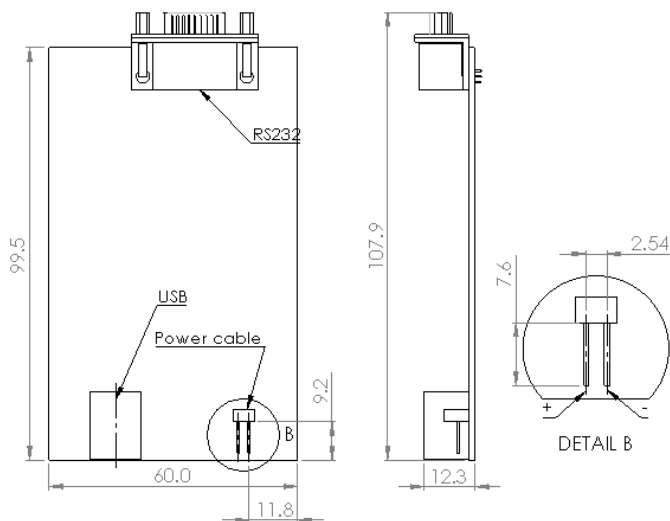
P/N: SC1313-ND

Power Barrel Connector Jack 2.00mm ID (0.079"),  
5.50mm OD (0.217") Through Hole, Right Angle

12V Wall Plug DC Power Supply Interface



#### Variation 2



**Note:** The DC Power Barrel Jack Connector can be replaced with a two-pin connector, available in two configurations: one with pins facing downward for direct PCB mounting and another for connection with a standard cable connector. This flexibility allows for integration into various system designs.

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