# Compact Driver for NanoSpeed™ VOA

## DC-50kHz

DATASHEET

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The NS VOA Driver provides driving signals for the NS series solid state VOAs. The push-pull output design ensures fast switching time for both rising and falling edges, and it is especially suitable for driving capacitive VOA loads.

The standard driver controls one individual VOA. Drivers that control multiple VOAs also are available, please call Sales at (781) 935-1200 for more information.

## Features

- High Speed
- High Output Voltage
- Wide Input Voltage Range
- TTL/CMOS/Other Control
- Push-Pull Output Design
- Low Power Consumption

## Specifications

| Parameter | Min | Typical | Max | Unit |
|---|---|---|---|---|
| Rising Speed (Sr) [1] | 450 | 500 | 650 | ns |
| Falling Speed (Sf) [2] | 450 | 700 | 850 | ns |
| Repetition Rate | DC | | 50 | kHz |
| Pulse Width [3] | 1.0 | | | us |
| Input Control Voltage [4] | 0 | 4.5 | 5 | V |
| Power Consumption [5] | | | 2.2 | W |
| Power Supply | 5 | | 12 | V |
| Operating Temperature | -5 | | 70 | ° C |
| Storage Temperature | -40 | | 80 | ° C |
| Electrical Connector | SMA | | | |

**Notes**:
[1]: Duration from begin of electronic signal to end of optic intensity change
[2]: Duration from begin of electronic signal to end of optic intensity change
[3]: Pulse working mode
[4]: For full attenuation. Low voltage version is available, see the order information.
[5]: Dependent on repetition frequency, measured at 50kHz

## Applications

- Optical VOA
- Optical Switch
- Optical Modulator

RoHS COMPLIANT

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.**



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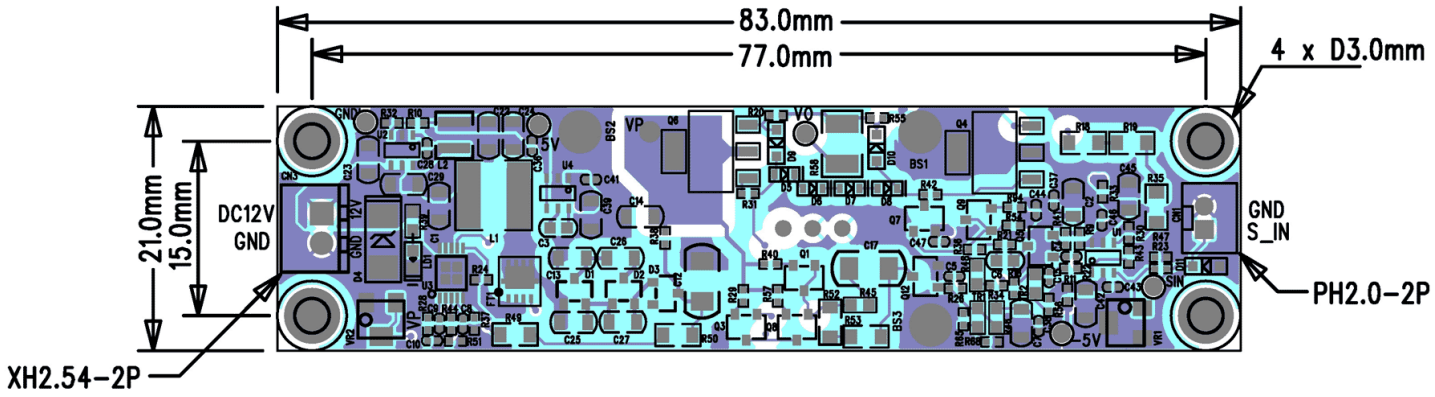
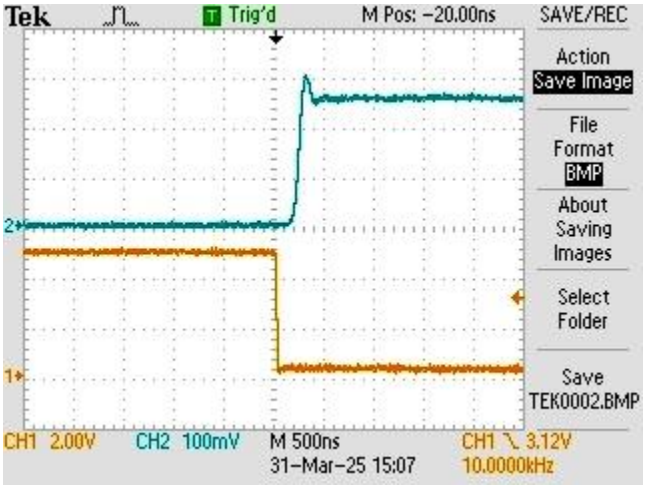
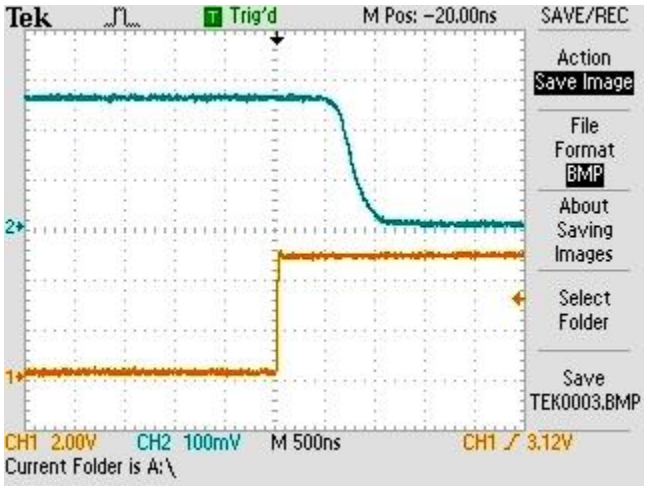
## Mechanical Dimensions (mm)




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

## Electric-Optic Switching Response

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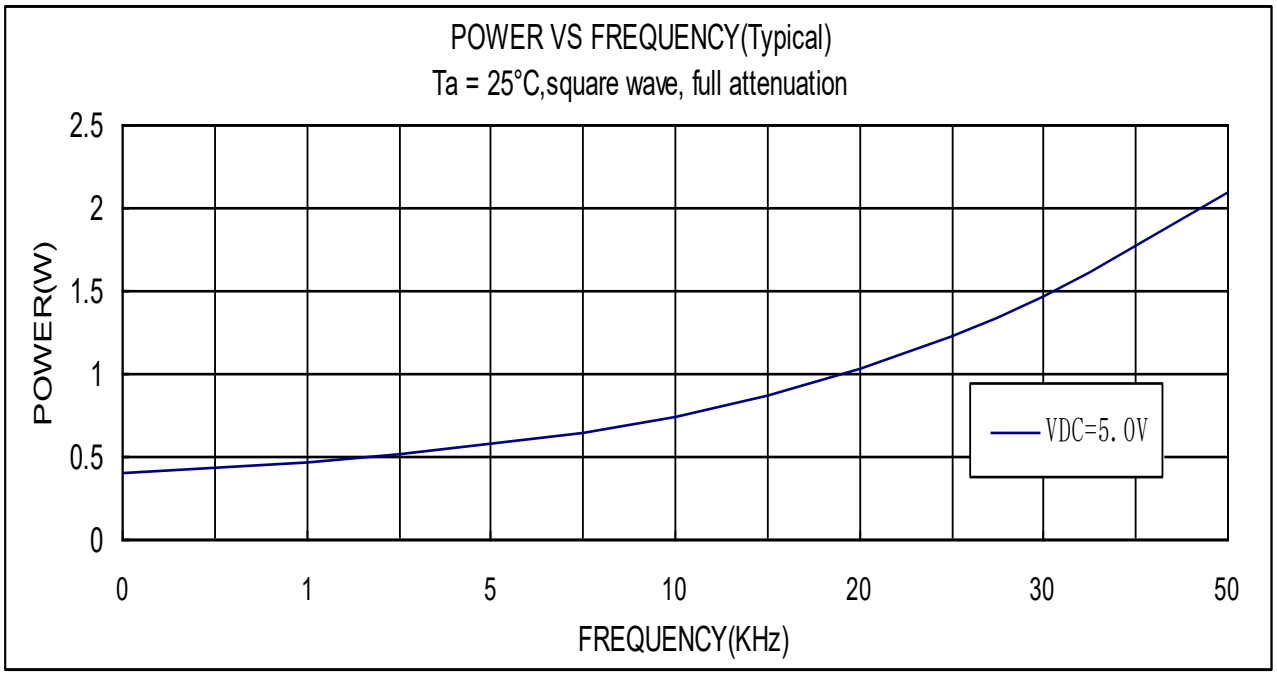
## Power Consumption




## Ordering Information

| | MI | 5 | □□ | 5 | 11 | □ |
|---|---|---|---|---|---|---|
| **Prefix** | **Type** | **Repetition** | **Size** | **Input control voltage** | | **Connector** |
| **NVDR-** | | DC-50kHz = 5<br>Special = 0 | 21mmx83mm = 28<br>Special = 0 | 3.3V version = 3<br>5.0V version = 5 | | SMA = 2<br>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 μm) 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.

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