## 1MHz Repetition Rate NanoSpeed Switch Driver

(Protected by U.S. patent 7,403,677B1 and pending patents)

## Features

- High speed
- High repetition
- High output voltage
- Wide input voltage range
- TTL/CMOS control
- Push-Pull output design
- Low power consumption
- Compact and low cost


## Applications

- Optical Switch
- EO device driver


## Product Description

This high repeat rate of driver is designed for driving the Nano-speed Premium (NP) series of fast switches, achieving the high repeat rate up to 1 MHz . The push-pull output design ensures fast switching time for both rising and falling edges, and it is especially suitable for driving capacitive switch loads.


Performance Specifications

| Specs | Min | Typical | Max | Unit |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Rise Time (Tr) $)^{[1]}$ |  | 85 | 100 | ns |  |  |
| Fall Time (Tf) ${ }^{[2]}$ |  | 85 | 100 | ns |  |  |
| Switch Speed (Rise) (Sr) ${ }^{[3]}$ |  | 315 | 350 | ns |  |  |
| Switch Speed (Fall) (Sf) ${ }^{[4]}$ |  | 315 | 350 | ns |  |  |
| Repetition Rate | DC |  | $1.0{ }^{[5]}$ | MHz |  |  |
| Pulse Width | 0.45 |  |  | us |  |  |
| Control Input (TTL pulse) | 0 |  | 5 | V |  |  |
| Power Consumption | 0.08 |  | 12 | W |  |  |
| Power Current |  | 12 |  | A |  |  |
| Power Supply | -5 |  | 70 | ${ }^{\circ}{ }^{\circ} \mathrm{C}$ |  |  |
| Operating Temperature | -40 |  | 80 | ${ }^{\circ} \mathrm{C}$ |  |  |
| Storage Temperature | SMA |  |  |  |  |  |
| Electrical Connector | $3(\mathrm{~L}) \times 2.5(\mathrm{~W}) \times 1.5(\mathrm{H})$ | Inch |  |  |  |  |
| Board Size |  |  |  |  |  |  |

## Note:

[1]: Optic Intensity Change from $10 \%$ to $90 \%$ intuits;
[2]: Optic Intensity Change from $90 \%$ to $10 \%$ intuits;
[3]: Switch Speed (Rise): Duration from begin of electronic signal to end of optic intensity change; [4]: Switch Speed (Fall): Duration from begin of electronic signal to end of optic intensity change. [5]: Only for Nano-speed premium type of switches

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## Response Measurement (Typ)



13:52:52

Tek Run: 200MS/s ET Sample



## Ordering Information

| SWDR- | 1 |  | 2 | H | 1 |  | 1 | $\square$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Switch Type | Function | Latching or not | Repeat rate ${ }^{[1]}$ | Footprint | \# of Switch | Control Mode | DC supply |
|  | NS Switch =1 | $\begin{aligned} & 1 \times 1,1 \times 2,2 \times 1,2 \times 2 \\ & \text { switches = } \mathrm{a} \\ & 1 \times 4,4 \times 1 \text { switches } \\ & =4 \mathrm{a} \\ & \text { Special }=00 \end{aligned}$ | Non-latching $=2$ | $1 \mathrm{MHz}=\mathrm{H}$ | $\begin{aligned} & \text { Standard = } 1 \\ & \text { Special = } 0 \end{aligned}$ | $\begin{aligned} & 1 \text { switch=1 } \\ & 2 \text { switches=2 } \\ & 3 \text { switches=3 } \\ & \mathrm{N} \text { switches=N } \\ & \text { Special=0 } \end{aligned}$ | $\begin{aligned} & \text { TTL=1 } \\ & \text { USB =2 } \\ & \text { RS232 =3 } \\ & \text { TTL \& USB = } 4 \\ & \text { RS232 \& USB = } 5 \\ & \text { Special=0 } \end{aligned}$ | $\begin{aligned} & 12 \mathrm{VDC}=1 \\ & 5 \mathrm{VDC} \\ & \text { Special }=2 \end{aligned}$ |

[1]: The repeat rate is defined for TTL control interface only.
[2]: 5V DC supply may not be available for certain switch. Please have a consultant with sale's manager.

