

NanoSpeed™ Switch Driver for NP and NF Type Switches

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

Product Description

The NSDR series of drivers provide high voltage of signals to drive the NS, NP and NF series of solid state switches. The push-pull output design ensures fast transition for both rising and falling edges with the high repeat rate, and it is especially suitable for driving capacitive switch loads.

The standard driver controls one individual switch. Drivers that control multiple switches also are available, please call Sales at (781) 935-1200.

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

Performance Specifications

Specs	Min	Typical	Max	Unit
Rising Time (T_r) ^[1]	NP & NS type	85	100	ns
	NF type	5		
Falling Time (T_f) ^[1]	NP & NS type	85	100	ns
	NF type	5		
Switch Time (Rise, S_r) ^[2]	NP & NS type	315	350	ns
	NF type	180		
Switch Time (Fall, S_f) ^[2]	NP & NS type	315	350	ns
	NF type	180		
Durability	10 ¹⁴			cycles
Repetition Rate ^[3]	0		1	MHz
Pulse Width	1.0			us
Control Input (TTL pulse)	0		5	V
Power Consumption ^[4]	1	5	12	W
Power Supply		12		V
Operating Temperature	-5		70	°C
Storage Temperature	-40		80	°C
Electrical Connector	SMA			

Note:

[1]: Transition time between 10% and 90% change of optical intensity.

[2]: Duration from begin of electronic signal to end of optical intensity change when driving switch.

[3]: 1MHz repeat rate may not be available for some type of switches.

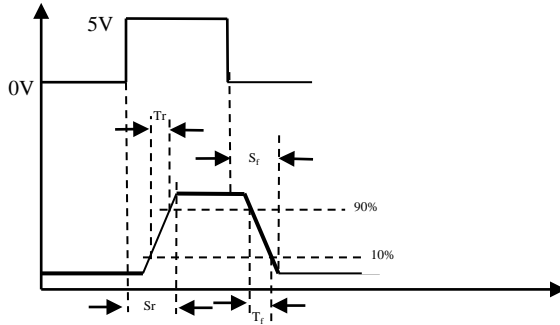
[4]: The power consumption highly depends on the repeat rate. The maximum power consumption is defined for 1MHz operation.

Applications

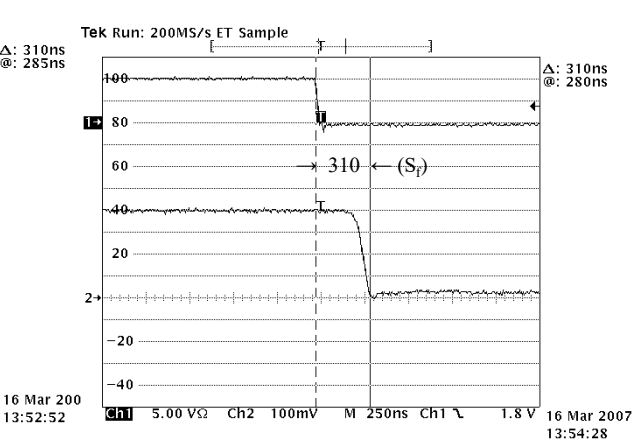
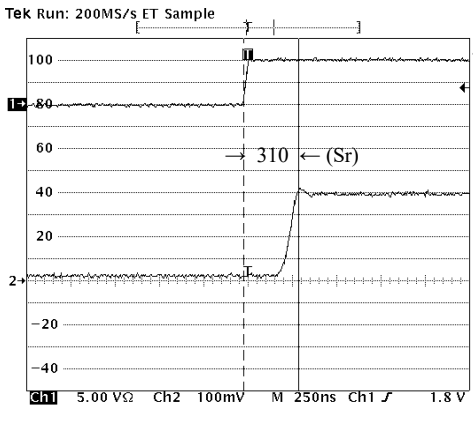
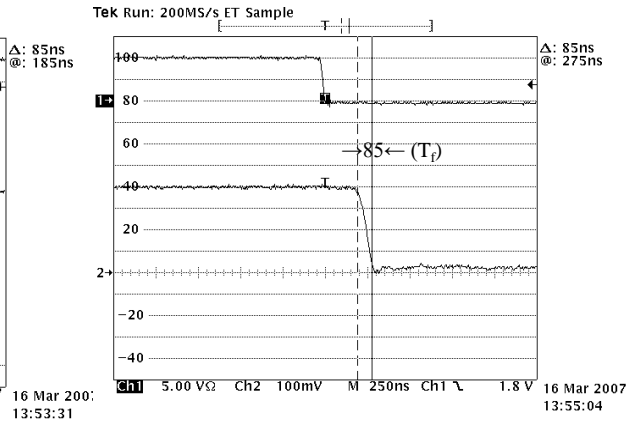
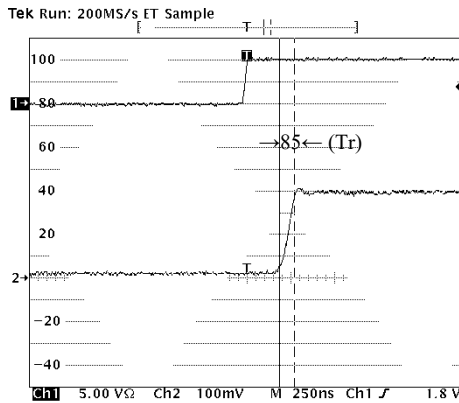
- Optical Switch
- EO device driver

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Response Time Definition

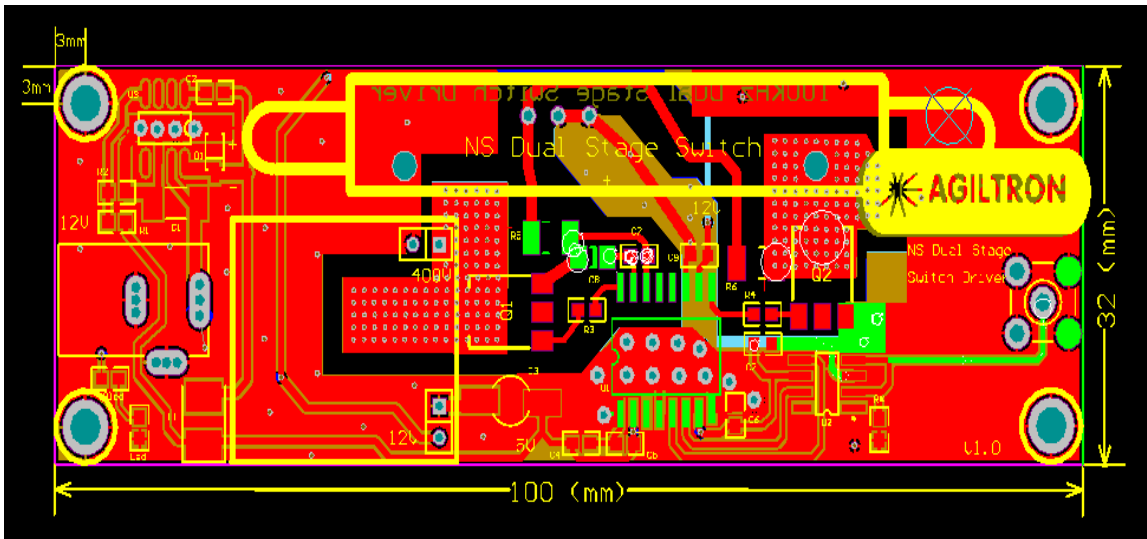
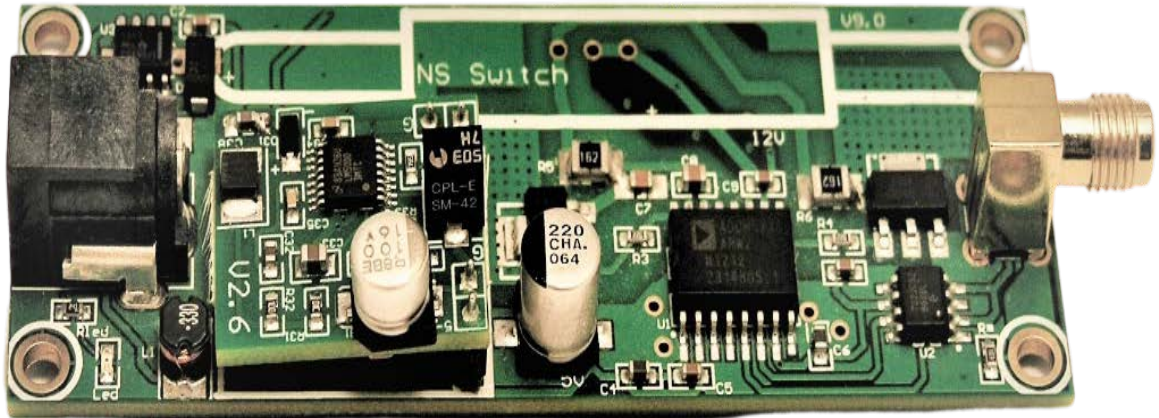


Response Time (Measured @ 500kHz)



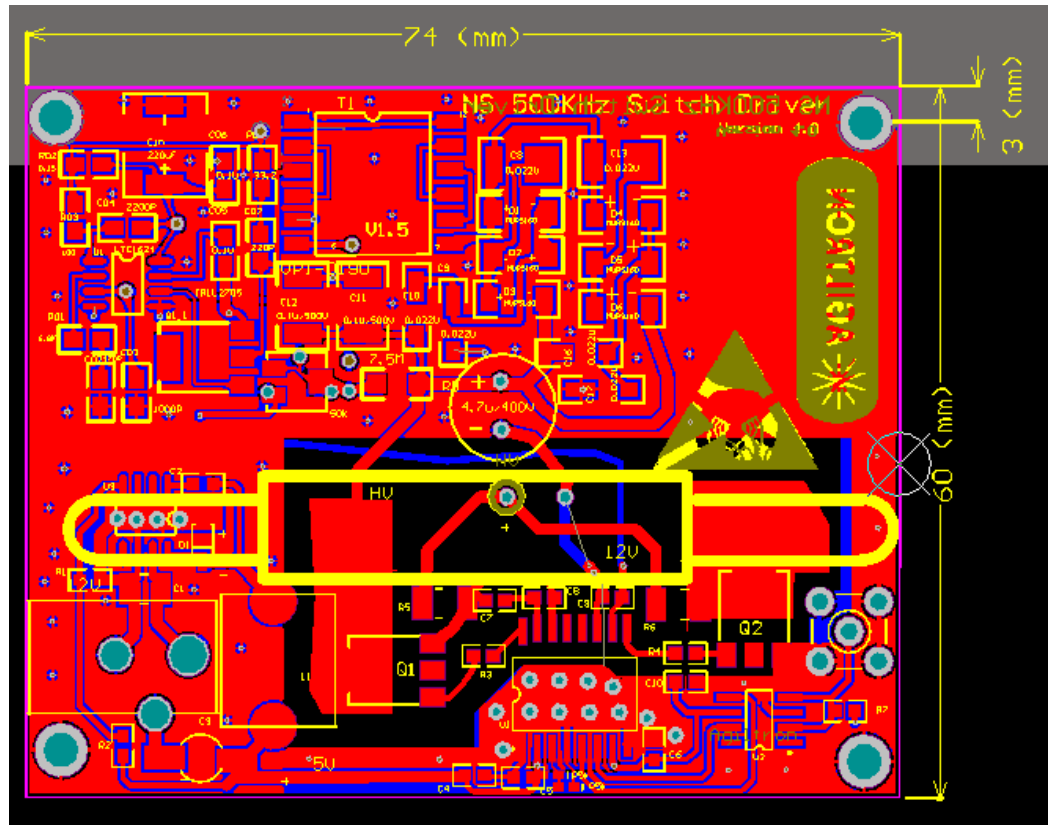
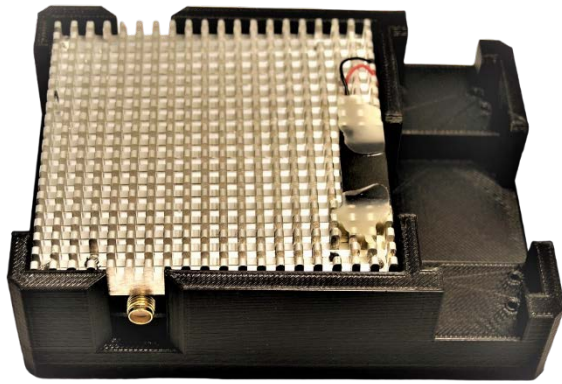
NanoSpeed™ Switch Driver for NP and NF Type Switches

Drivers for Dual-stage NS 1x1 (60kHz) and Dual-stage NP 1x1 (200kHz)



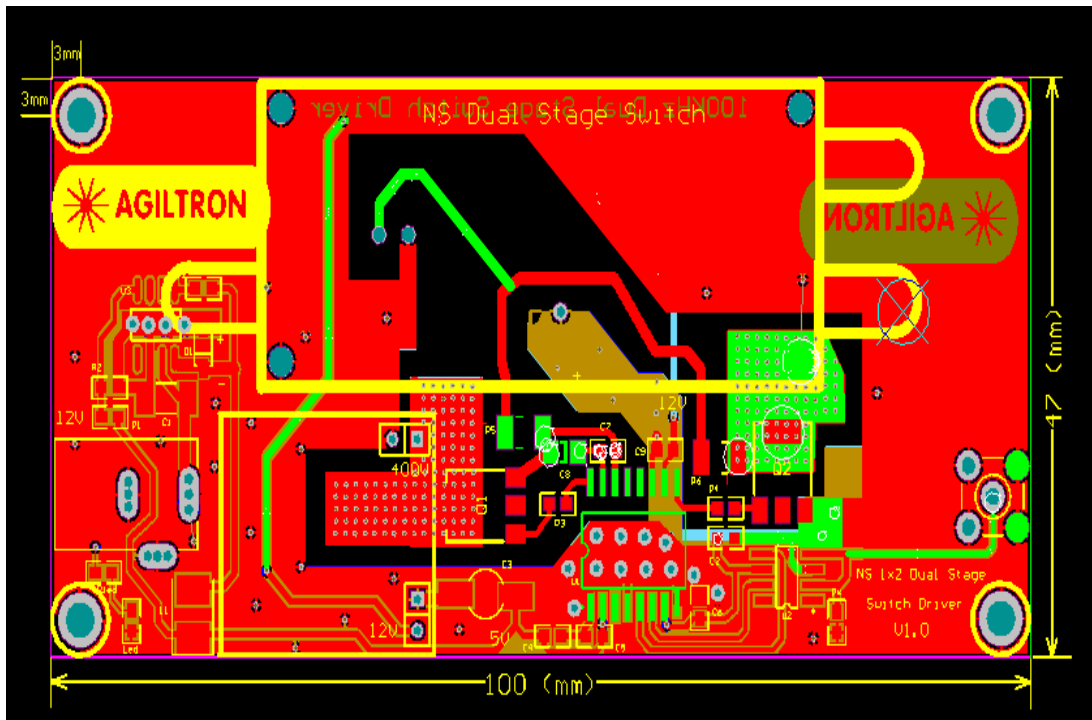
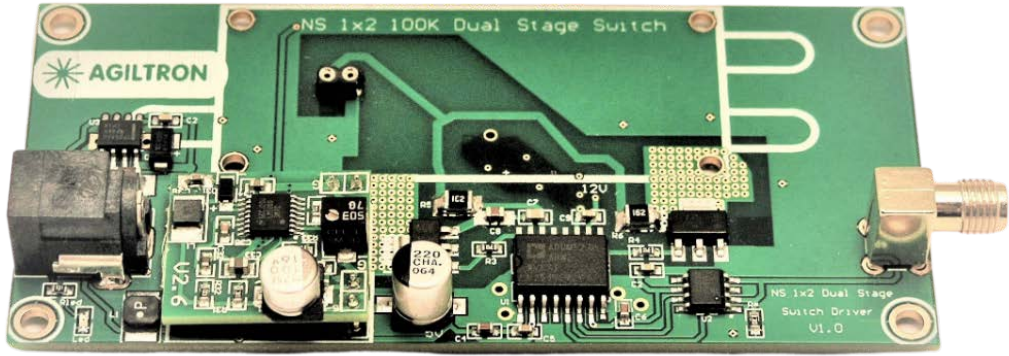
NanoSpeed™ Switch Driver for NP and NF Type Switches

Drivers for NS 1x1 (500kHz) and for NP 1x1 Switch (1MHz)



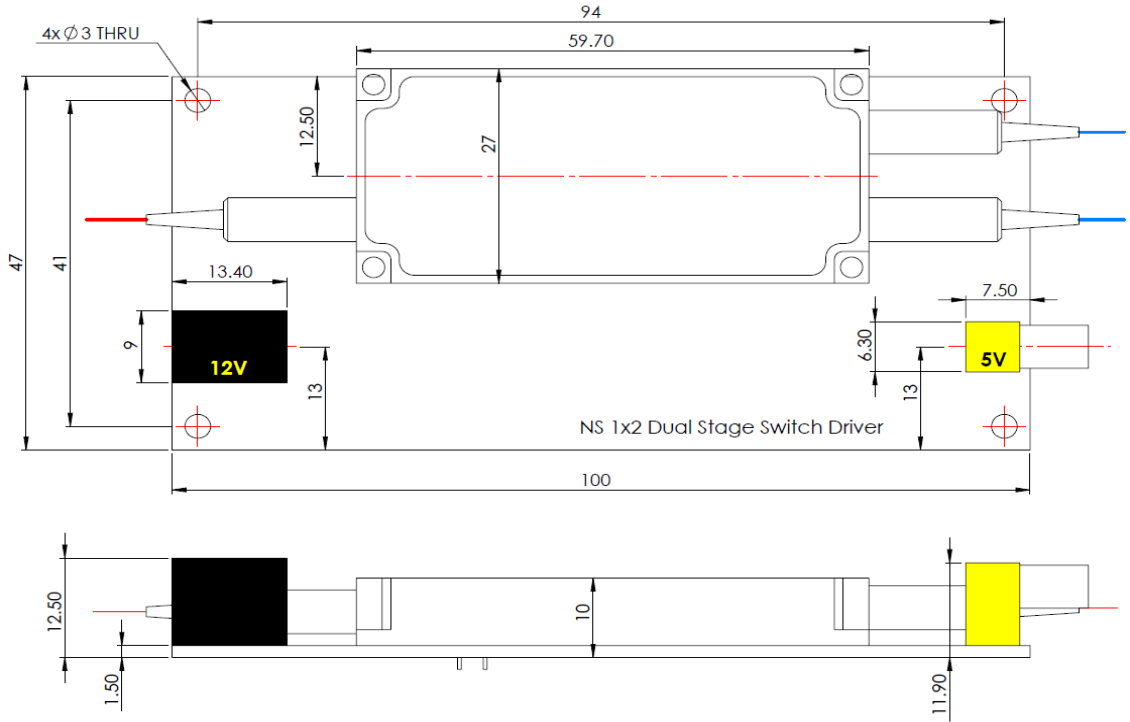
NanoSpeed™ Switch Driver for NP and NF Type Switches

Drivers for NS Dual-stage 1x2 (60kHz) and for NP Dual-stage 1x2 (200kHz)



NanoSpeed™ Switch Driver for NP and NF Type Switches

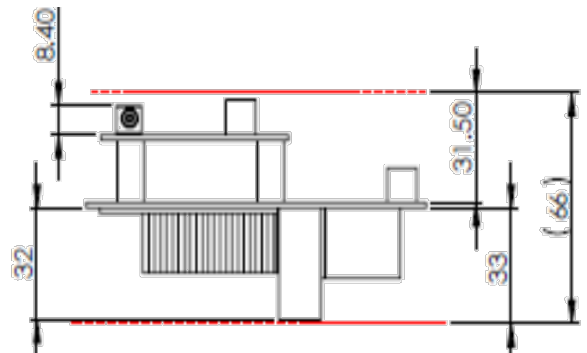
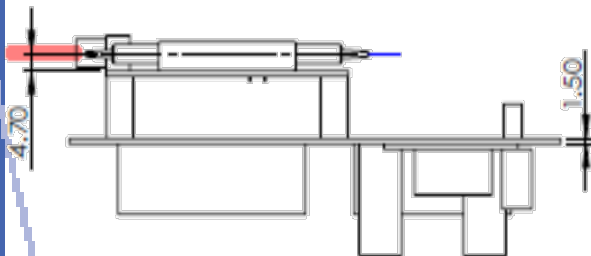
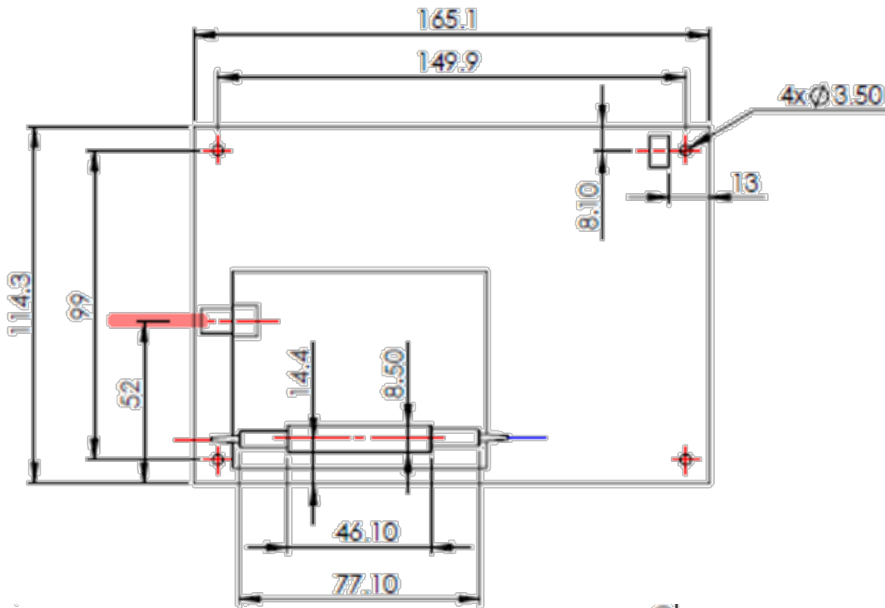
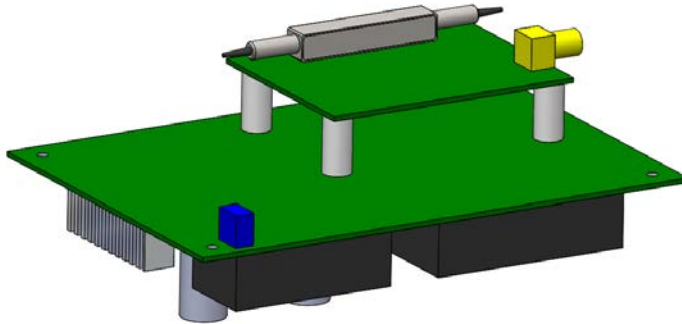
Mechanical Drawings for Dual Stage 1x2



NanoSpeed™ Switch Driver for NP and NF Type Switches

1x1/1x2,2x2 NF Type Switch Mounted on 1MHz Driver

NF Driver is completed with a special power supply with 110-220AC power input. It consumes about 10W at the fastest repetition operation

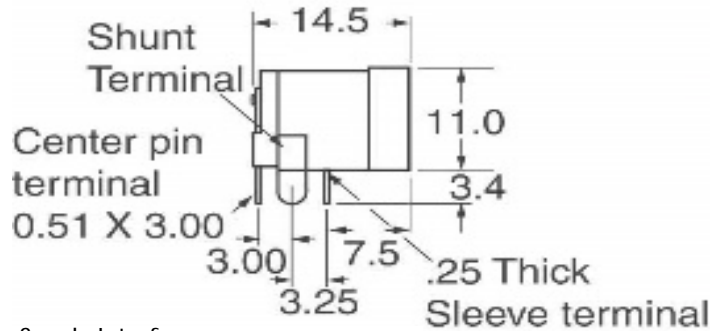


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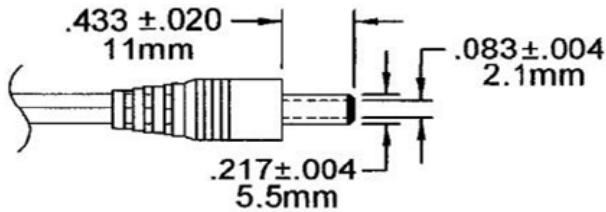
Power Connector

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



Ordering Information

NSDR-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Switch type	Configuration	Repeat rate	Switch QTY	Channel # ^[1]	Control Mode ^[2]	Power supply
	NS, dual-stage = 2S	1x1, 1x2, 2x1, 2x2 = 1a 1x3, 3x1 = 3a 1x4, 4x1 = 4a Special=00	60kHz = 6 300kHz = 9	Single switch = 1 Multiple-switch = G	Standard (single channel) = 1 N parallel channel = N Special = 0	TTL=1 Special=0	12VDC = 1 Special = 0
	NP, single stage = 1P NP, dual stage = 2P NF, single stage = 1U NF, dual stage = 2U	1x1, 1x2, 2x1, 2x2 = 1a 1x3, 3x1 = 3a 1x4, 4x1 = 4a Special=00	200kHz = M 1MHz = H Special = 0	Single switch = 1 Multiple-switch = G	Standard (single channel) = 1 N parallel channel = N Special = 0	TTL=1 Special=0	12VDC = 1 110VAC ^[3] = A Special = 0

[1]: Multiple-channel version is designed for the module with multiple switches on driving PCB.

[2]: USB, RS232 control mode is also available for low repeat rate operation <5kHz. Please contact sales.

[3]: 110VAC power supply is needed for NF type switches.