



**Electronic Design & Research**  
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*Technology for people's ideas*

# High Voltage, D3 and D4 series

## Fast, High Voltage Solid State Relay/Switch

Designed to control up to 1700V and up to 1.2A without a heat sink

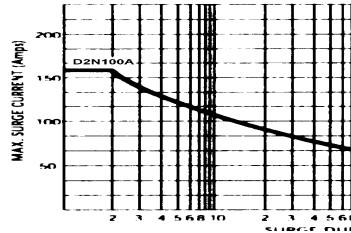
**Features:** Utilizes only 1.84 sq. in. of PCB area and only 1.2" tall  
 Up to 1.1A Amp continuous or up to 75 Amp-pick in miniature size  
 High sensitivity, even at a high switching frequency  
 92 A surge current, and only 100 mill-Ohms low on-state resistance  
 24V input and only 20 mA required.

**Input Specifications:**

Input controls	24 VDC	12 VDC	3-36 VDC
Nominal Current, at 10 Hz		15mA	23mA
Maximum Current, at 500 Hz		16 mA	40mA
Maximum Current, at 4.0 KHz		18 mA	50mA

**Output Specifications:**

Operating AC/DC voltage range	0 – 1700VDC/1100VAC
Maximum continuous current	see the next page
Maximum surge current (IDM) - 2ms	see the next page
Continues current (ID)	see the next page
Maximum on-state resistance	see the next page
Rising time	.5 $\mu$ S
Delay-on time	1 $\mu$ S
Falling time	.2 $\mu$ S
Delay-off time	1 $\mu$ S
Maximum switching frequency	20.0 KHz

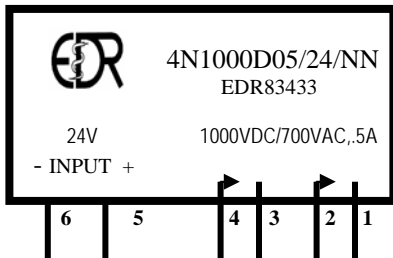
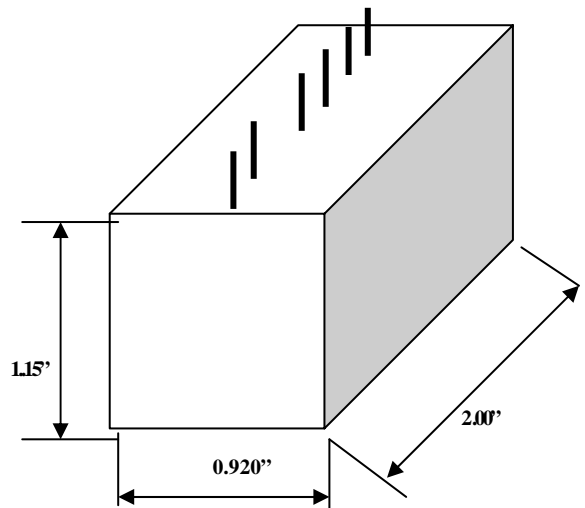
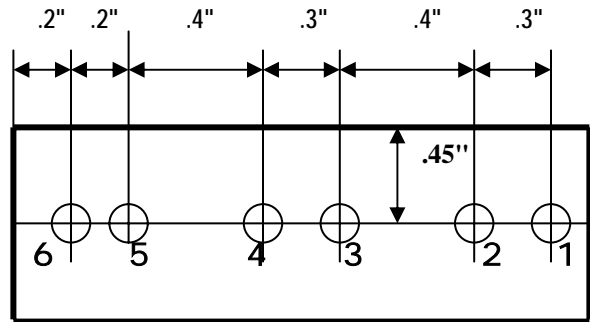


**General Specifications:**

Ambient operating temperature range	-50 <sup>o</sup> C to 55 <sup>o</sup> C
Ambient storage temperature range	-40 <sup>o</sup> C to 150 <sup>o</sup> C
Dialectic Strength input-to-output	3000VAC

**Mechanical Specifications:**

Weight(oz)	.5
Encapsulation	ResTech 10207/053
Dimensions for DPST	1.15"H x 2.0"L x 0.92"W
Dimensionns for SPST	1.15"H x 1.75L x 0.8"W
Terminals - Solder	.030" diameter



Transient Protection: All loads are inductive, even ones that are not so obvious or labeled. An inductive load produces a harmful transient voltage, which is much higher than the applied voltage, when it is turned on and off. A SSR built with a MOSFET output acts as an ideal switch and can produce a seemingly "non-inductive" load, which can cause damage if not suppressed. A transient voltage suppressor, which is bi-directional for an AC applied voltage and unidirectional for a DC applied voltage, should be used to clamp excessive spikes.

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At the present time the following models available.

Part Number	Model	V Volt	I Amp	Im Amp	Ic mA	R Ohm	DC/AC Volt	Type N/NN	Freq. Mux KHz	\$
EDR83431	D3N1000D05/x/N	1000	.5	5	0.001	2.2	DC	NO	25	\$97.00
EDR83432	D4N1000D05/x/NN	1000	.5	5	0.001	2.2	DC	NO/NO	25	\$133.00
EDR83433	D4N1000A05/x/NN	700	.5	5	0.001	4.4	AC	NO/NO	25	\$186.00
EDR83460	D4G1000T05/x	1000	.5	5	0.001	2.2	DC	SPDT	25	\$377.00
EDR83461	D4F1000T05/x	1000	.5	5	0.001	2.2	DC	SPDT	250	\$581.00
EDR83434	D3N1000D09/24/N	1000	.9	15	0.05	0.65	DC	NO	25	\$118.00
EDR83435	D4N1000D09/24/NN	1000	.9	15	0.05	0.65	DC	NO/NO		\$162.00
EDR83436	D4N1000A09/24/NN	700	.9	15	0.05	1.35	AC	NO/NO		\$201.00
EDR83437	D3N1000D12/24/N	1000	1.2	22	0.1	0.39	DC	NO		\$169.00
EDR83438	D4N1000D12/24/NN	1000	1.2	22	0.1	0.39	DC	NO/NO		\$225.00
EDR83439	D4N1000A12/24/NN	700	1.2	22	0.1	0.8	AC	NO/NO		\$289.00
EDR83440	D3N1100D08/24/N	1100	.8	13	0.5	0.92	DC	NO		\$111.00
EDR83441	D4N1100D08/24/NN	1100	.8	13	0.5	0.92	DC	NO/NO		\$157.00
EDR83442	D4N1100A08/24/NN	770	.8	13	0.5	1.85	AC	NO/NO		\$194.00
EDR83443	D3N1200D06/24/N	1200	.6	14	0.5	1.5	DC	NO		\$122.00
EDR83444	D4N1200D06/24/NN	1200	.6	14	0.5	1.5	DC	NO/NO		\$171.00
EDR83445	D4N1200A06/24/NN	840	.6	14	0.5	3.0	AC	NO/NO		\$208.00
EDR83446	D3N1500D04/24/N	1500	.4	10	0.05	2.5	DC	NO		\$133.00
EDR83447	D4N1500D04/24/NN	1500	.4	10	0.05	2.5	DC	NO/NO		\$186.00
EDR83448	D4N1500A04/24/NN	1100	.4	10	0.05	5.0	AC	NO/NO		\$227.00
EDR83449*	D3N1700D05/24/N	1700	.5	75	0.001	1.1V	DC	NO		\$188.00
EDR83450*	D4N1700D05/24/NN	1700	.5	75	0.001	1.1V	DC	NO/NO		\$256.00
EDR83451*	D4N1700A05/24/NN	1300	.5	75	0.001	2.0V	AC	NO/NO		\$345.00

**Note:**

\* Devices built with an IGBT. All other models built with MOSFET.

- V - Maximum allowed voltage between terminals
- I - Maximum allowed current without a heat sink, at a maximum voltage
- Im - Maximum pulse current (10 microsecond, duty cycle 1%)
- Ic - Leak Current at 0.8 \* V
- R - Resistance between terminals
- D/ or A/ - D is for only constant current, and A for any type of current
- Output option N is for a normally open, SPST terminal,  
NN is for normal open DPST terminals.  
T is for a SPDT or TOTEM or analog switch output.
- /24, /12 or There are three control voltages (24VDC or 12VDC for D3N and D4N types relay and 5/12/24VDC for D3G-D4G and D3F/D4F relays)

**Please contact us for your current, voltage and packaging requirements. There is no set-up charge for order of 250 relays or more. A private labeling is possible.**

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