100VDC/45A SPST Relay/Switch

D7G100D45/24/24W -Powerful, Fast Solid State Switch

Designed to deliver 80kW of power in microseconds

Electronic Design & Research
http://www.vsholding.com

Technology for people's ideas

Features:
- Utilizes only 8 sq. in. of PCB area and only 2.0" tall
- 45A continuously or up to a 200A-pulse in a miniature package
- High sensitivity, even at high switching frequencies
- 800A surge current and only 0.008 Ohms on-state resistance

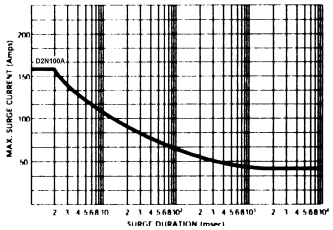
Please specify input control voltage and power supply

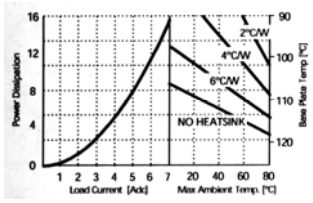
Input Specifications:

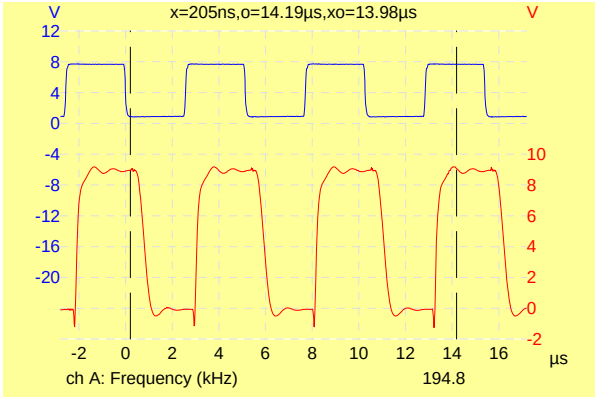
Input Control Current/Voltage	24VDC/1mA
Power Supply Voltage/Current	18-36VDC, 20mA

Output Specifications:

Operating DC voltage range	0 – 100 VDC
Maximum continuous current	40 A (DC, no
Maximum Continuous Current	67 A
Maximum surge current (IDM) - .1mS	200 A
Maximum pulsing current, duty 1/50	800 A/10mS
Maximum on-state resistance	0.008 Ohm
Rising time	.180 µS
Delay-on time	.480 µS
Falling time	(determined by a load)
Delay-off time	.500 µS
Maximum switching frequency	100.00 KHz
Maximum burst frequency (> 2 min)	200.00 KHz
Shortest pulse width	.6 µS







Control

Load

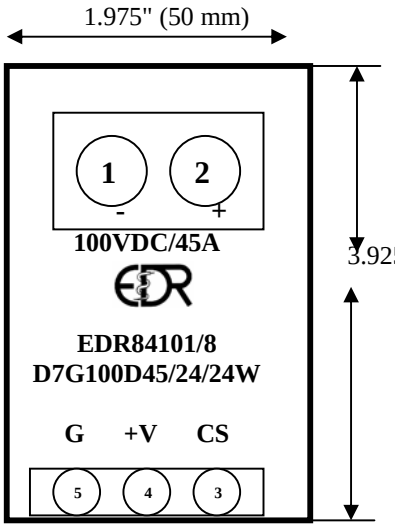
Switching at 194KHz on a 1.0 Ohm load

General Specifications:

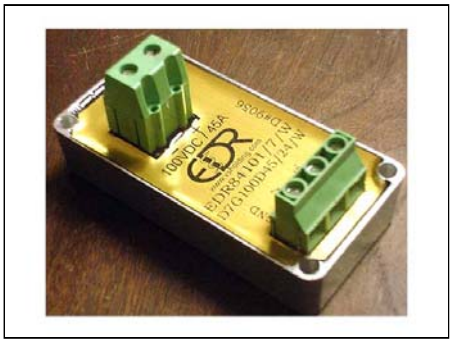
Ambient operating temperature range	45^0 C to 85^0 C
Ambient storage temperature range	-55^0 C to 125^0 C
Dielectric Strength input-to-output	2,500Vrms(min)

Mechanical Specifications:

Weight (oz)		.2
Encapsulation	Epoxies Etc.	50-2366RFR / 50-2366CFR



PIN 1: - LOAD
PIN 2: + LOAD
PIN 3: + Control Signal
PIN 4: + Vcc
PIN 5: GND



Dimensions of the enclosure (box)	.85"H x 3.925"L x 1.975"W
Highest with Power terminal Block	2.00"
Terminals Control (screw type)	wires 10 – 24 AWG
Terminal Power (screw type)	**wire 6-20 AWG/ rated at 67 Amperes**

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 AC applied voltage and unidirectional for DC applied voltage, should be used to clamp excessive spikes.

Electronic Design & Research Inc. ** 7331 Intermodal Dr. ** Louisville ** KY 40258
Tel: 502-933-8660; Fax: 502-933-3422; Sales: 800-336-1337; e-mail: vsholding@vsholding.com

Input Electrical Characteristics (Ta = 25^{0}C) for DG100D45/24/24W, p/n EDR84101/8

	Minimum	Nominal	Maximum	
Power Supply VDC, Pins 5-6	12	24	36	V
Power Supply, Current	30	20	100/10Khz	mA
"OFF" state, Control Voltage, normally "HIGH"		5		V
"ON" state, Control Voltage, "LOW"		0.8		V
Maximum Input Current, no external resistor			10	mA
An external resistor can be used to decrease the input current			5	mA

Switching time test – Load – 1 Ohm & 20A, a single 1.8 µS pulse width

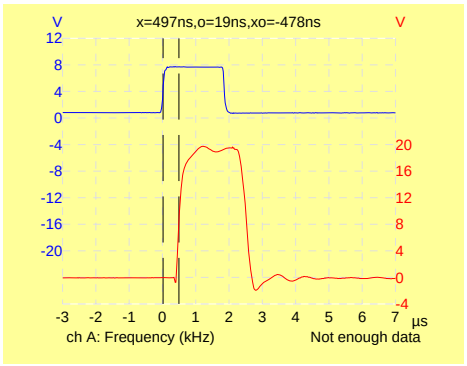


Figure 1 Turn-on delay is .478µS

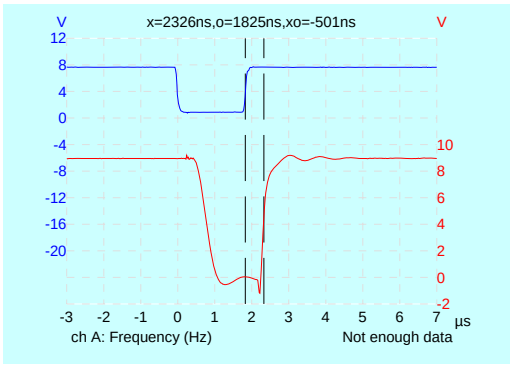


Figure 2 Turn-off delay is .501µS

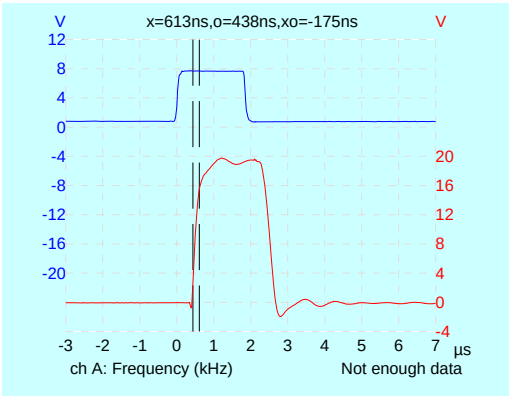


Figure 3 Rising time is 0.175µS

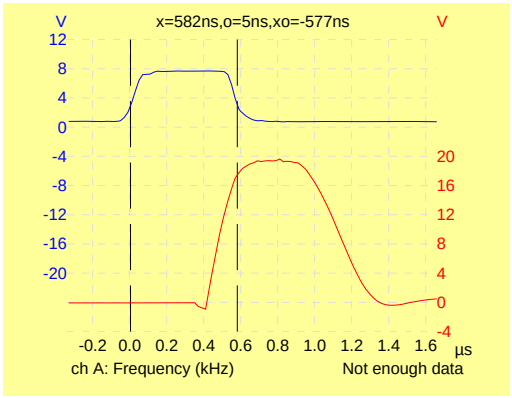
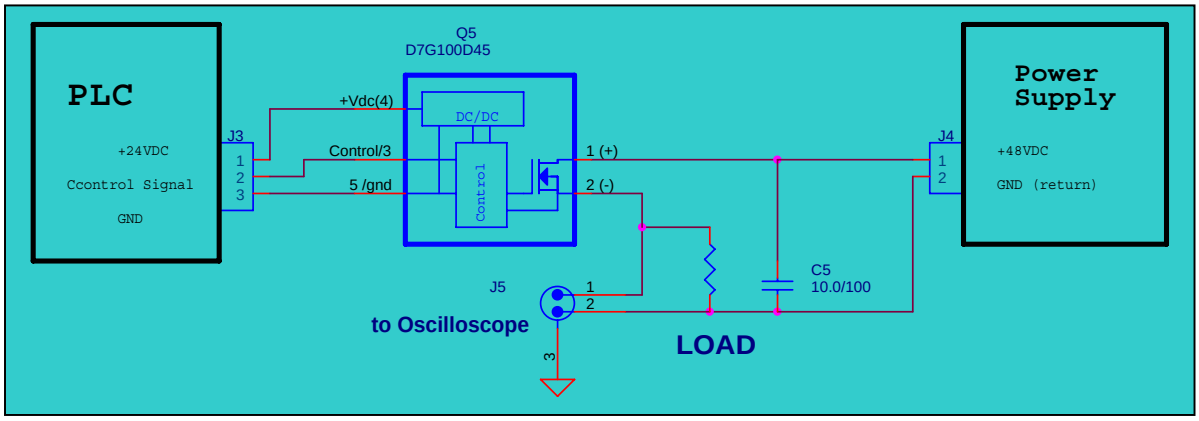


Figure 4 A pulse width is .577µS



Switching Time Test Circuit