



Electronic Design & Research
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Technology for people's ideas

EDR82710 - 500VDC, 7A High speed, 1/2 Bridge Driver

Fast, powerful break-before-make switch

The EDR82710 (H7G500D7) belongs to the "T" family of a fuzzy-logic controlled relays offers needed flexibility that required in many industrial applications.

Features:

Utilizes only 1.4 sq. in. of PCB area and only 1.15" tall
 7A continuously or up to 30 A pulse in a miniature package
 High sensitivity, even at high switching frequencies
 140 A surge current and only 0.01 Ohms on-state resistance

Input Specifications:

Input Control Voltage (pin 4) see page #5
 Nominal Current 0.3 mA
 Power Supply +Vcc (pin6) see the order page for selection

Output Specifications:

Operating DC voltage range 0 - 500 VDC
 Rated current, no heatsink 7 Arms rms
 Current with a heatsink 15A
 Maximum surge current (IDM) - .1mS 140 A
 Continuous current (ID) - 30 A
 Maximum on-state resistance 0.01 Ohm
 Rising time 0.017 μS
 Delay-on time 0.140 μS
 Falling time 0.027μS
 Delay-off time 0.098 μS
 Maximum switching frequency 200 KHz

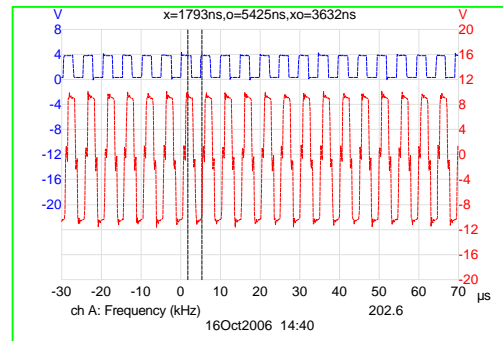
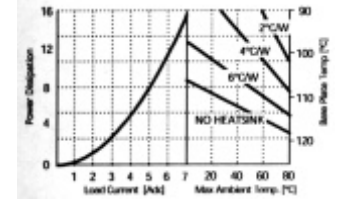
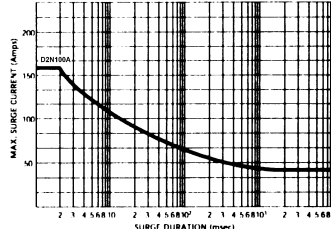
All specifications were giving without any heatsink at room temperature

General Specifications:

Ambient operating temperature range -35⁰ C to 75⁰ C
 Ambient storage temperature range -55⁰ C to 125⁰ C
 Dielectric Strength input-to-output 2,500VAC

Mechanical Specifications:

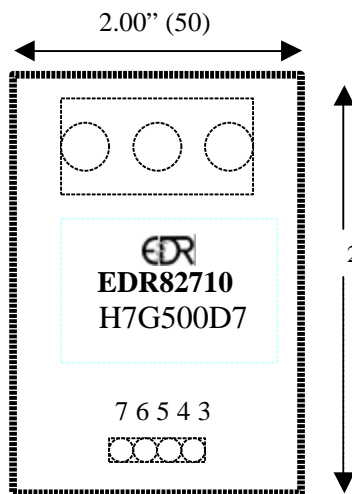
Weight (oz) .2
 Encapsulation Epoxies Etc. 50-2366RFR / 50-2366CFR



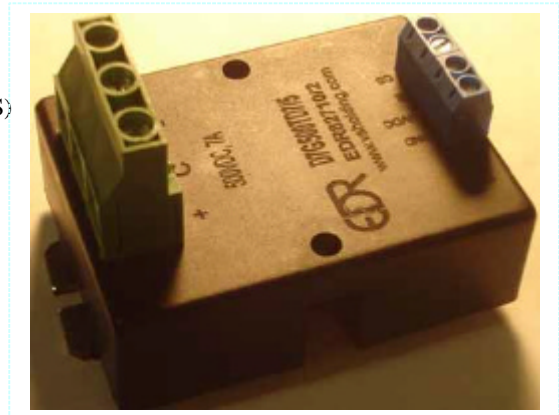
Control

Load

A sample of driving a load at 200 KHz



- PIN 1: +OUT
- PIN 2: COM
- PIN 3: -OUT
- PIN 4: Control Signal (CS)
- PIN 5: Enable (EN)
- PIN 6: +Vdc
- PIN 7: GND



All Dimensions are in inches (millimeters).

Dimensions for SIP7 package 2.85"H x 2.7"L x 2.0"W
 Output Terminals screw types

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.

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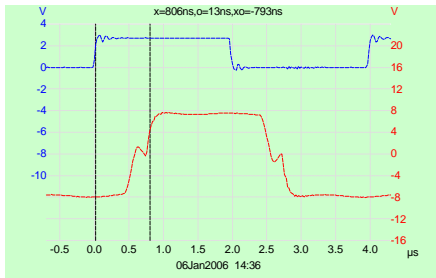
Input Electrical Characteristics (Ta = 25°C) for H7G500D3/5, p/n EDR82710/2

Characteristic	Test Condition	Min	Typ.	Max.	Unit
Control Voltage, low level threshold			1.7		V
Control Voltage, high level threshold			3.3		V
Enable (EN) threshold (pin 5)		1.0	2.0		V
Input Current		0.300			mA

Input Electrical Characteristics (Ta = 25°C)

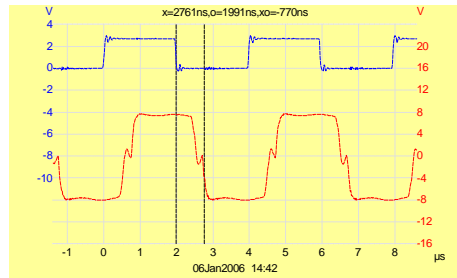
Power Supply (pins 6), Vcc (200 mA maximum)	4.9	5	5.3	V
Maximum Vcc current at DC – 1.0 KHz	40			mA
Maximum Vcc Current at 275 KHz	200			mA

Switching time test – Load – 8.3 Ohm & 2.2 A



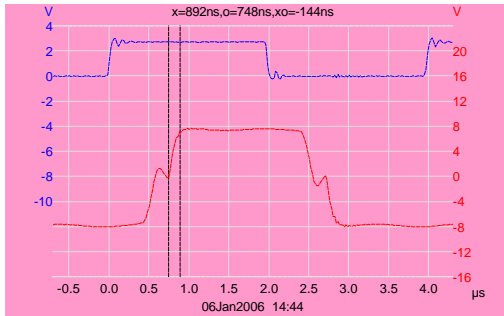
Control
Load

Figure 1 Turn-on delay is 793 nS



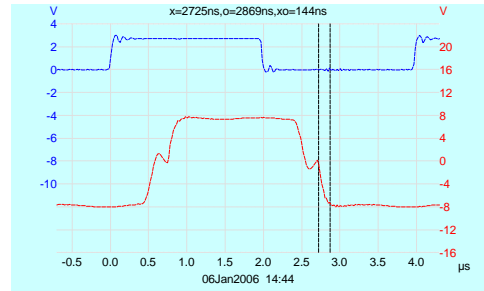
Control
Load

Figure 2 Turn-off delay is 770 nS



Control
Load

Figure 3 Rising Time is 144 nS



Control
Load

Figure 4 Fall Time is 144 nS

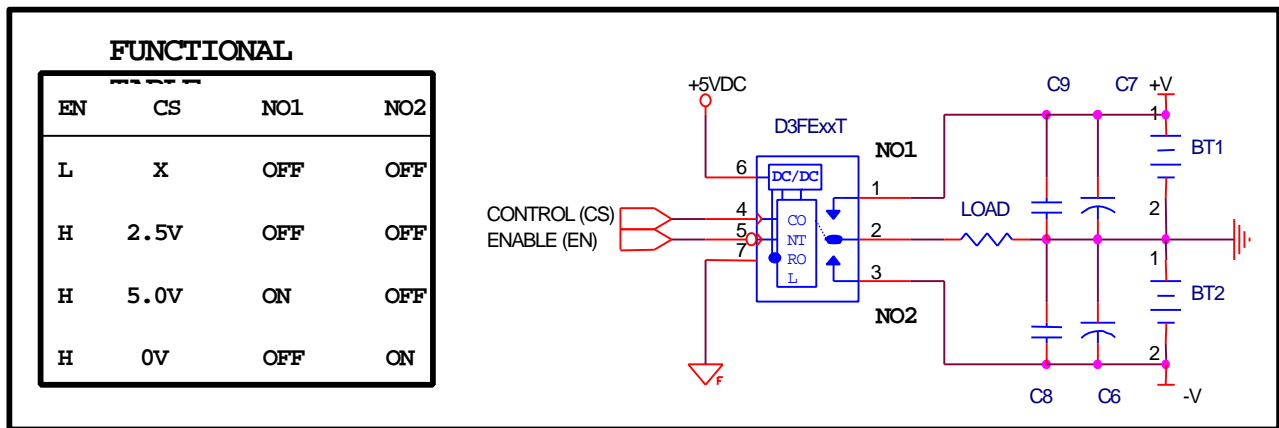


Fig. 5 Switching Time Test Circuit

The enable is connected to +5VDC via a 10K resistor and can be left floating.