8-SOIC (0.154", 3.90mm Width)

SN74HC02NSR
U1A
U1B
U1C
U1D
U2A
U2B
U2C
U2D
U3A
U3B
U3C
U3D
U4A
U4B
U4C
U4D

350v DF#1
GFD 350v (1-N)
GFD 350COM (1-N)
350v DF#3
350v DF#4
GFD 350v (2-N)
GFD 350COM (2-N)
GFD TEST (N)
350v SSR#1
350v SSR#2
350v SSR#3
350v SSR#4
350v DF#2

How much current does each relay need? IC package has total current limit of 2.5 A.

NEW 400v Relays 2/2022
DF Relays 50ma x 8 = 400ma
350Vdc SSR 15ma x 4 = 60ma
48vdc SSR 12ma x 1 = 12ma

5102322-4
J6
U6 - 1C
U6 - 3C
U5 - 3C
U5 - 5C
U5 - 1C
U6 - 5C
U6 - 7C
U5 - 7C
24V
U6 - 2C
U6 - 4C
U5 - 4C
U5 - 2C
U6 - 6C
U6 - 8C
U5 - 6C
U5 - 8C

CONNECT
J6 Pin 1 350v SSR#1
J6 Pin 2 350v SSR#2
J6 Pin 3 350v SSR#3
J6 Pin 4 350v SSR#4
J6 Pin 5 GFD 350COM (1-N)
J6 Pin 6 350v DF#3
J6 Pin 7 350v DF#4
J6 Pin 8 GFD 350v (1-N)
J6 Pin 9 350v DF#1
J6 Pin 10 350v DF#2
J6 Pin 11 N/C
J6 Pin 12 N/C
J6 Pin 13 N/C
J6 Pin 14 GFD 350v (2-N)
J6 Pin 15 GFD 350COM (2-N)
J6 Pin 16 GFD TEST (N)
J6 Pin 17 24v
J6 Pin 18 N/C
J6 Pin 19 24v

J5 J9 J7:
USE PHOENIX
HEADER 1881529
CONNECTOR 1881406

INTSW4

P5
1881406
J5
1881529
Phoenix

U5
ULN2803ADWR
U6
ULN2803ADWR
GND
COM
24V

Pinout of new outputs?

J6
TE CONNECTIVITY
5102322-4
20-pin ribbon cable
to relay card

P6
1658621-4
TE CONNECTIVITY

J7
Phoenix
1881529
350v SSR#1
350v SSR#2
350v SSR#3
350v SSR#4
350v DF#2
24V
24C

P9
1881406
P7
1881406

J11
FROM CURRENT MONITOR BOARD
350_I_IN_4
350_I_IN_3
350_I_IN_2
350_I_IN_1
MOLEX_0705530005

J10
TO DENKOVI DAEnetIP4
24V
5VDC
350_I_O_3
350_I_O_1
TEMP
350_I_O_4
350_I_O_2
HUMID
MOLEX_571-826632-5

U30
ISL21080DIH312Z-TK
C21 0.01uF
C22 0.01uF

U28 HIH-4000
C 0.1uF
R18 75k
U29 LM35_TO-92
C20 0.1uF
TEMP
HUMID
TP12
TP13

TP7 TP10
R10 10k R11 10k R12 10k R13 10k
350_I_IN_1 350_I_IN_3
U24 U25
1.25V
TP9 TP11
350_I_O_1 350_I_O_3
AD8628ARZ-REEL7

TP14 TP15
R14 10k R15 10k R16 10k R17 10k
350_I_IN_2 350_I_IN_4
U26 U27
TP16 TP17
350_I_O_2 350_I_O_4

J8:
USE PHOENIX
HEADER 1881464
CONNECTOR 1881341
5 VDC IN
P8
1881341
Phoenix
1881464
R1 0 Ohms
C5 1uF
D2
TVS_5V_Standoff
TP1
TP2 TP3 TP4 TP5
TP6

TEST POINTS

U1E SN74HC02NSR
U2E SN74HC02NSR
U3E SN74HC02NSR
U4E SN74HC02NSR
C1 0.1uF
C2 0.1uF
C3 0.1uF
C4 0.1uF

MOUNTING HOLES # 6 WITH WASHER
MT1 MT2 MT4 MT3

RN2D
5k
UNUSED

NOR
A + B

A	B	Out
0	0	1
0	1	0
1	0	0
1	1	0

Rev C:
Connector change
Deletion of extra wire ways
Rev D:
?
Rev E:
Added U4 SR latch
Added input protection resistors
Rev F:
Changed drivers from source to sink.
Changed current sense input to 500 mV/A.
Added 8 more output channels.

Scaling is 0.5 V / A

Board dimensions to be the same as Relay Board VEN2016-003. With the same mounting holes

Drawn by: P McGill, C Pawe, D Thompson and D French

Title	TTL-24Vdc Level Shift LCB		
Size D	Document Number 100221371		Rev J
Date: Tuesday, March 01, 2022	Sheet 1 of 7		