SN65HVS885EVM

The SN65HVS885EVM evaluation module (EVM) supports the rapid, parametric evaluation of the SN65HVS885 digital input serializer. It is intended to be used in conjunction with the SN65HVS885 data sheet, (SLASxxx). Note this EVM is not intended for electromagnetic compatibility (EMC) tests.

1 EVM Schematic and Layout

Figure 1 shows the board circuit schematic and Figure 2 shows the board layout top view. The board includes a terminal block, TB1, and three connectors, JMP1 to 3.

TB1 receives the board supply of 5 V nominal. VCC supplies the SN65HVS885 device and VIN provides the supply for sensor switches.

Upon the application of VCC the red VCC LED indicates 5V availability to the device.

JMP1 provides the field inputs IN0:IN7 for field voltages of 24 V nominal. They can be applied via:

a. an external supply in series to a sensor switch connected to a field input,
b. or a sensor switch connected between and input and VIN,
c. or a direct connection between an input and VIN.

In all three cases, a 24-V level represents the ON-status of a sensor switch, which is indicated by the corresponding LEDs D0:D7.

JMP2 provides access to the control and data lines of the internal serializer. To operate the serializer $\overline{CE}$ must be connected either to ground or to CLK.

Upon an active-low load pulse, (a high-to-low-to-high transition) at $\overline{LD}$, the status information of the field inputs is latched into the serializer. Applying eight consecutive clock cycles at CLK, shifts out the serializer data at SOP with each rising edge of the clock.

Cascading of multiple boards is also possible by connecting the SOP output of a leading device with the SIP input of a following device.

JMP3 allows the selection of three different debounce times and 3 different current limits.

Debounce default is 3-ms and does not require any connection between the DB inputs to ground. Otherwise for zero debounce time connect DB1 to ground, and for 1-ms debounce time connect DB0 to ground.

Note, that open DB inputs are internally pulled high and will not float.

Setting a specific current limit requires a connection between the R_{LIM} output and one of the resistors, RLIM 1:3. For a current limit of 3.6 mA connect R_{LIM} to R8, for 3 mA to R9, and for 2.5 mA to R10.

For detailed information on device functionality and system design recommendations refer to the SN65HVS885 datasheet.

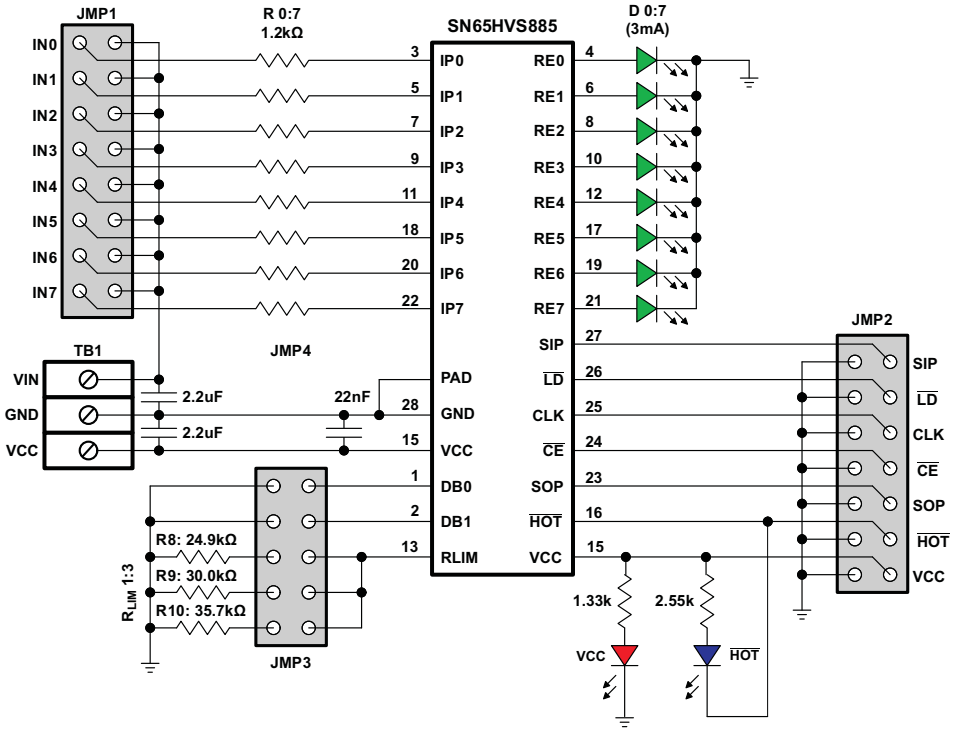

Figure 1. SN65HVS885EVM Schematic

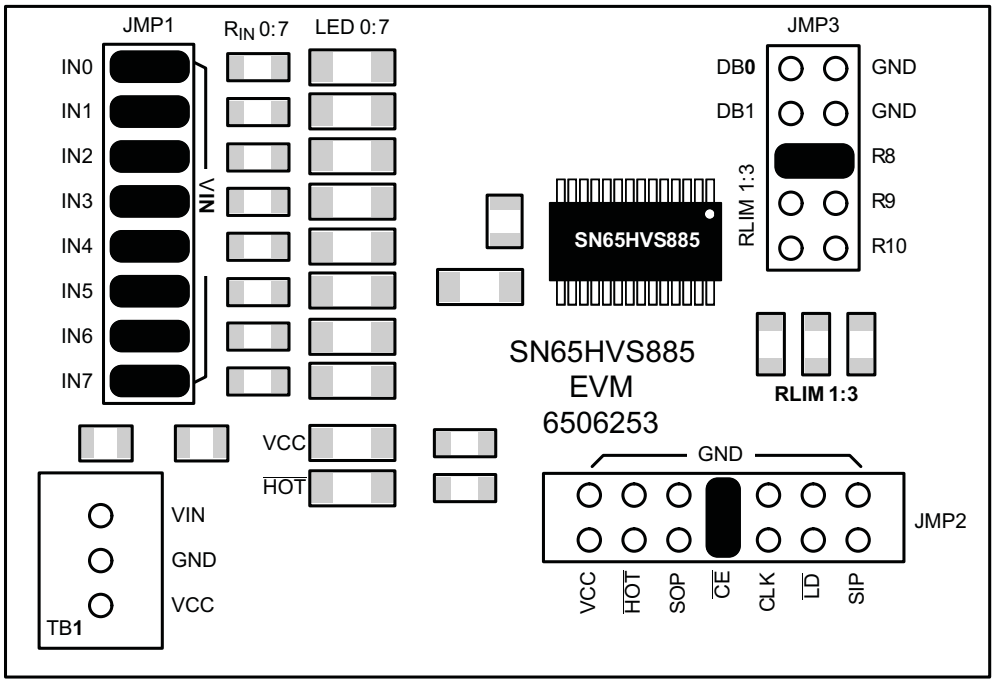

Figure 2. SN65HVS885EVM Layout

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