

TEST32 Parts List

Qty.	Symbol	Description
32	R1-R32	330Ω resistors [orange-orange-brown]
4	H1-H4	8-pin Waldom side entry connectors (Mouser 538-09-52-3081)
32	L1-L32	Bi-color diffused red/green T1 size 2-lead LEDs (Mouser 604-L937EGW) or if only using to test current sinking outputs can use diffused T1 size Red LEDs (Digi-Key P363) or if only using to test current sourcing outputs use diffused T1 size Green LEDs (Digi-Key P364)
1	—	Clip lead (Jameco 10444)

Author's recommendations for suppliers given in parentheses above with part numbers where applicable. Equivalent parts may be substituted. Resistors are ¼W, 5 percent and color codes are given in brackets.

General Information:

Assembly follows the same basic steps as the DOTEST card covered in the Second Edition Build Your Own Universal Computer Interface book and in the C/MRI User's Handbook without the need to add the separate label panel because the needed display information is already printed on the card. In general I recommend using the 2-lead bi-color LEDs as this enables testing both current sinking and current sourcing outputs. Simply connect the clip lead to +5Vdc when checking standard current sinking outputs. Simply connect the clip lead to ground when checking alternate current sinking outputs.

Note: If you drill out the LED holes using a .035" diameter drill (No. 65) the base of the LED will fit down next to the circuit board providing improved visual correlation between the LED and the port and bit legend printed on the circuit board.

Information notes on card assembly:

1. However, the bi-color LEDs are considerably more expensive than single color LEDs. Therefore, if you plan to only use one type of output (standard current sinking or alternate current sourcing) you can install the less expensive single color LEDs. I like to use the red LED for testing standard current sinking and the green LED for testing alternate current sourcing outputs.
2. Using the specified Mouser 604-L937EGW bi-color LED, install the longer lead in the hole with the square pad to provide a red indication when checking standard current sinking outputs and a green indication when checking alternate current sourcing outputs.
3. If using the red only LED (Digi-Key P363) you must install the longer lead in the hole with the square pad and the test card will work only for testing standard current sinking outputs.
4. If using the green only LED (Digi-Key P364) you must install the shorter lead in the hole with the square pad and the test card will work only for testing alternate current sourcing outputs.
5. As per the instructions for the DOTEST card, clip off and discard one of the alligator clips, making the remaining lead as long a possible. Enlarge hole x to be a snug fit for your clip lead's insulation diameter and hole y to fit the clip leads internal wire diameter. Feed the cutoff end of the clip lead up through hole X, strip off about ¼ inch of the insulation and fit the stripped end of the lead into whole Y, solder and trim.

Card Testing:

1. If using the Bi-color LED, connect the card's clip lead to +5Vdc. Use another clip lead to step through touching each of the connector pins on H1 through H4 to ground. Each time the corresponding LED should light red. Then connect the test card's clip lead to ground and use another clip lead to step through touching each of the connector pins on H1 through H4 to +5Vdc. Each time the corresponding LED should light green.
2. If using the red only LED, connect the card's clip lead to +5Vdc. Use another clip lead to step through touching each of the connector pins on H1 through H4 to ground. Each time the corresponding LED should light red.
3. If using the green only LED, connect the card's clip lead to ground. Use another clip lead to step through touching each of the connector pins on H1 through H4 to +5Vdc. Each time the corresponding LED should light green.