

Figure 10

NOTE: The two contact pins at the right-hand side of the TCRT5000 in Figure 10 are the anode and cathode terminals of its internal **infrared (IR)** LED. The two contact pins on the left-hand side of the device are the emitter and collector terminals of its internal IR phototransistor. The snap in mounting clips hold the TCRT5000 firmly in place during soldering. As shown in Figure 11 below, the TCRT5000 is mounted on the **bottom side** of the PCB, with the flat end of the device facing toward the middle of the board.

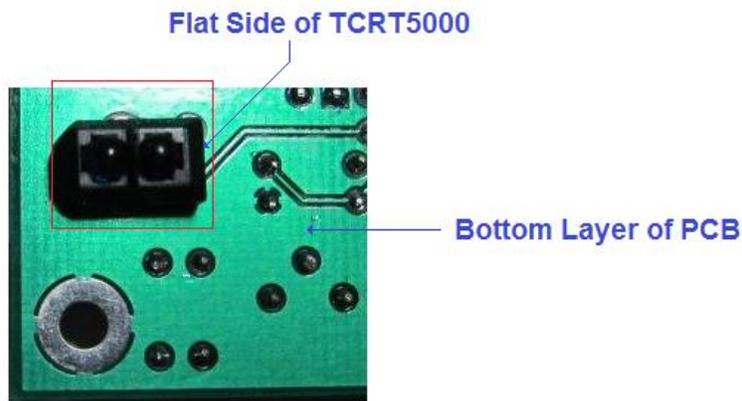


Figure 11

26) Insert Reflective IR Photosensor U1 into the **bottom** (ground plane) side of the PCB as shown in Figure 11.

27) Invert the PCB and apply a small amount of flux to the protruding metal contact pins of the TCRT5000. **DO NOT** apply flux or solder to the plastic mounting clips or guidepost of the device! Solder the four metal contact pins of the TCRT5000 to the PCB. Trim the pins and check for solder bridges.

28) Assuming an aerosol can of flux remover is available, remove solder flux from both sides of the PCB, carefully following the instructions and safety precautions written on the container.

29) Referring back to Table 3 in the Tables and Figures sheets, find high-speed voltage comparator U2. Using Figure 12 as a guide, carefully position the comparator in the correct orientation over the U2 Dip-8 socket. Carefully squeeze the IC pins inward as necessary to position them exactly over the eight collets of the DIP socket. Applying pressure **slowly** and **evenly** from above, insert the LM311 comparator into its socket.

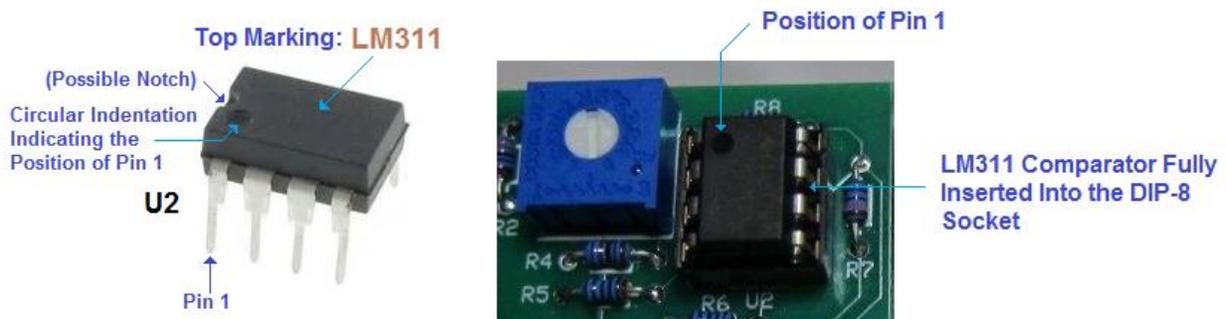


Figure 12

Conclusion:

Assembly of the Reflective Photosensor Circuit Module is now complete. In the next procedure, **Testing the Operation of the Reflective Photosensor Circuit Module**, we will verify that the circuitry we have just assembled is working correctly. This testing procedure, along with the user's guide and other supporting data for the Reflective Photosensor Circuit Module is found in the Reflective Photosensor Circuit Module folder, located on the USB stick included with this kit.