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LED and Diode Markation Guidelines

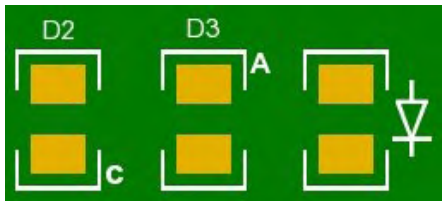
Have you ever had an LED or other diode placed backwards? By us? By someone else? By yourself? We don't like it when that happens and we're sure you don't either. Screaming Circuits strives to place every component, from the largest, highest pin-count logic chip down to the smallest passive components, correctly every single time. A key element of that accuracy is our understanding of your board and the component markings.

If you use surface mount diodes or LEDs, you probably understand the challenges involved in correctly and consistently indicating diode polarity. LEDs are usually cathode negative, while zeners and uni-directional TVS diodes can be cathode positive. Barrier diodes can be either orientation. It all depends on whether the diode is a rectifier, an LED, a uni-directional TVS, part of a daisy-chain and a host of other considerations.

When you start looking at the CAD libraries, you not only have all the differences from that manufacturer, you may also have different markation schemes from each CAD package developer and from each library builder.

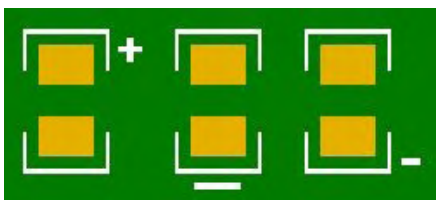
Guidelines for diode polarity mark silk-screening – "A" for Anode or "C" for Cathode.

RECOMMENDED



To ensure the best accuracy, we recommend extra care in marking your diodes to remove any ambiguity. Simply placing an "A" adjacent to the Anode on the board works well. A "C" for Cathode adjacent to the cathode will work as well, as long as the diodes are also clearly designated as diodes (D1, D2, etc.). You can also use the complete diode symbol in silkscreen. If you are producing your board without silkscreen, you can put the mark in the copper layer.

NOT RECOMMENDED



Relying on +, - or _ are not definitive in what they indicate and are not recommended.

Can you tell where the cathodes go on this pcb image?

(Answers: Cathode up on the first two, cathode down on the third. Or, maybe it's the other way around)