**SMC Component comparison:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| JLCPCB Part number | Rated Voltage | Dimensions | Price | JLCPCB Stock |
| C393939 | 30V | 8.94x7.81x3.26 | $0.0642 | 87832 |
| C668623 | 5V | 8.94x6.80x3.16 | $0.0360 | 116761 |
| C136423 | 12V | 8.94x7.35x3.26 | $0.1934 | 42332 |
| C2765186 | 5V | 8.94x7.35x3.16 | $0.0572 | 123188 |
| C165948 | 5V | 8.94x7.35x3.16 | $0.1697 | 162928 |

**SMC C393939 Pin guide:**

|  |  |  |  |
| --- | --- | --- | --- |
| A1 | GND | B12 | GND |
| A4 | VBUS | B9 | VBUS |
| A5 | CC1 | B8 | SBU2 |
| A6 | DP1 | B7 | DN2 |
| A7 | DN1 | B6 | DP2 |
| A8 | SBU1 | B5 | CC2 |
| A9 | VBUS | B4 | VBUS |
| A12 | GND | B1 | GND |

**PD Component comparison:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| JLCPCB Part number | Ask Voltage | Dimensions | Price | JLCPCB Stock |
| C970725 | 4-22V | 3.9x3.9 - pinout 1mm | $0.4965 | 6900 |
| C22373734 | 3-22V | 2x2 | $0.1869 | 4182 |

**Passive Components:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | Value | Value Origin | Connection | JLCPCB Part Number |
| R1 | 75kΩ | C22373734  Datasheet | Vset - GND | C23242 |
| C1 | 1µF | C22373734  Datasheet | VBUS-GND | C52923 |

**Requirements:**

* 9V charging sourced from USB host

**Design Ideas:**

* ~~Looks like we can just stick the connector onto the board and wire the connections directly~~  
  UPDATE 1: A SMC will only request 5V from a USB-C host. We’ll require a PD controller to request 9V.
* No data transfer required, so only VBUS and GND pins need to be used
* *For visual fallback reference:* There are four sets of two pins grouped close together. The two outermost pairs are GND, and the second from the outside are VBUS.
* For the SMC, it seems that the C393939 is the best option. It is one of the most in-stock options, can handle up to 30V (>3 times our maximum voltage), and is one of the cheapest options available. (Extended: no basic parts available)