SP250Ψ Data Sheet Errata (Rev. A)

SP∆RK X

rev. 0.3.1A 10/12/2016

USB ID Configuration

The serial debug bus on the SP250Ψ supports both embedded host and device modes of operation, supporting full speed (12Mbits/s) and low speed (1.5Mbits/s) communication. In order to access serial debug tools, the SP250Ψ must identify in device mode. This is achieved by selecting the appropriate USB ID resistor value according to the table below.

we decided not to allow the device to go into host mode for security reasons so it actually doesn't matter what this value is. I've used anything from 100 to 100k with good results

USB_ID_MODE	R_{ID} MIN	R_{ID} MAX
EMBEDDED HOST	10Ω	100Ω
DEVICE	200Ω	100kΩ
CPU SELECTABLE	NC	NC

fig.1 USB ID Resistance Table

Design Considerations

In development applications where the USB ID may need to be altered by the user it is recommended to employ a nested footprint design wherein a high-resistance 0603 device can be circumvented with a low resistance axial device. This way it isn't necessary to remove the surface mount device in order to replace it using a through-hole part.
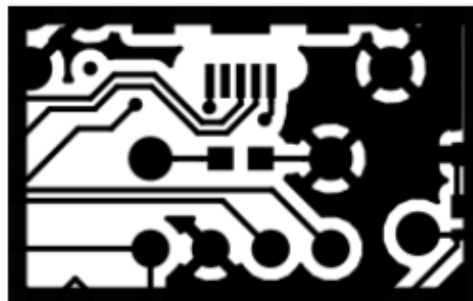

fig.2 USB ID Reference Footprint

HOSAKA