

FRDM-MC36XSD-EVB Demo

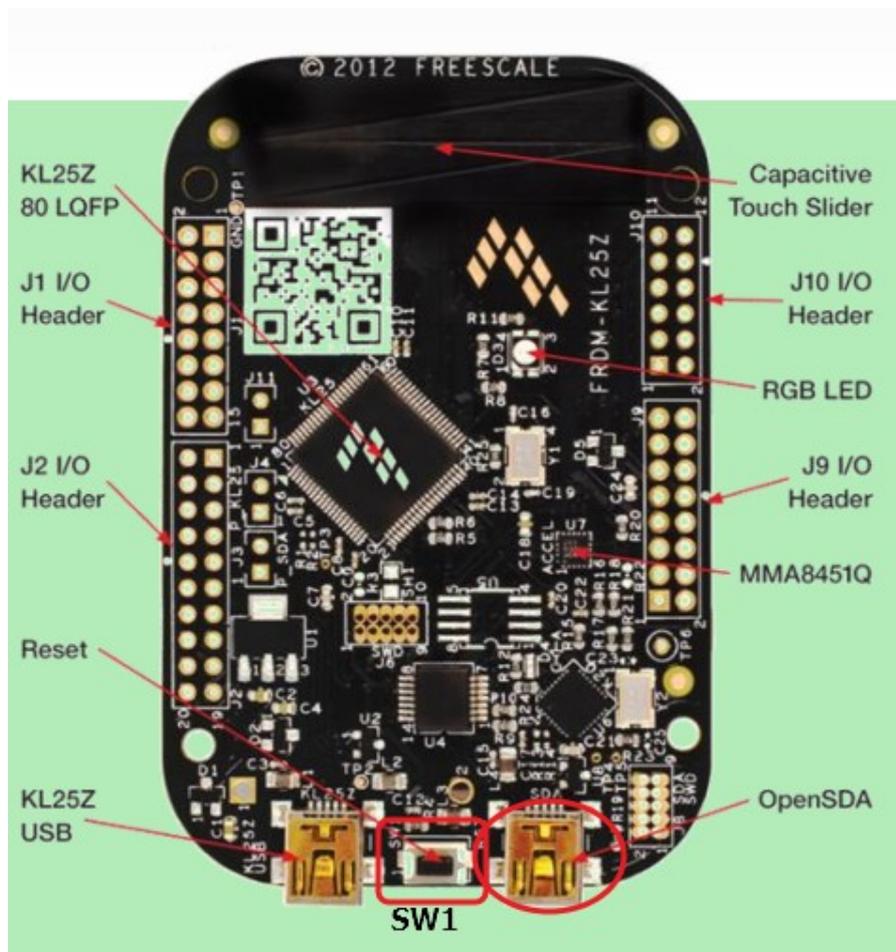
The NXP [MC36XSD](#) is part of a family of intelligent, dual high side eXtreme switches for 36V systems. The FRDM-MC36XSD-EVB circuit board consists of two MC36XSD family chips: MC06XSD200. Each chip supports two high side switches. This demo uses [FRDM-KL25Z](#) as development platform to control these switches and measure channels current.

1 Install Driver

Locate the 'driver' folder, install the P&E OpenSDA USB Drivers.



Plug in a USB cable from a USB host to the OpenSDA mini-B connector.



FRDM-KL25Z comes with the mass-storage device(MSD) Flash Programmer OpenSDA Application preinstalled. It will appear as a removable storage drive with a volume label of 'FRDM-KL25Z', meanwhile the USB CDC Serial Port will be installed automatically.



2 Update OpenSDA Application

2.1 Enter OpenSDA Bootloader Mode

Unplug the USB cable if attached, press and hold the Reset button(SW1), plug in a USB cable between a USB host and the OpenSDA USB connector, release the Reset button.

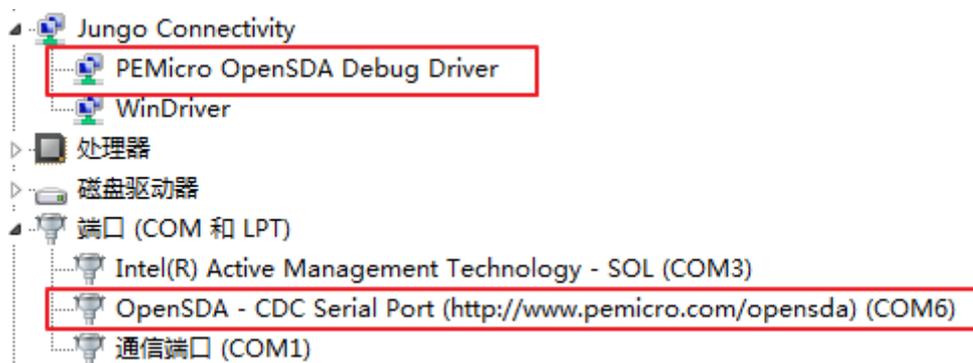
A removable drive should appear in the host file system with a volume label of 'BOOTLOADER'.



2.2 Load an OpenSDA Application

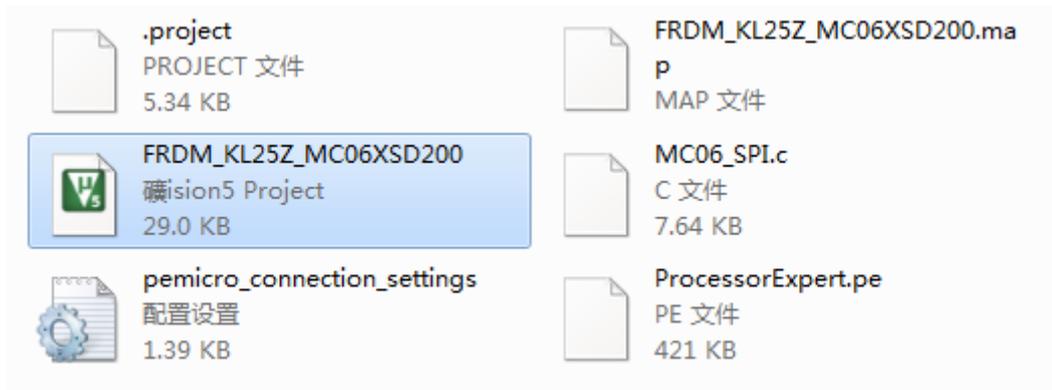
Locate the 'OpenSDA Applications' folder, copy file 'DEBUG-APP_Pemicro_v102.SDA' to the 'BOOTLOADER' drive, unplug the USB cable and plug it in again.

Driver will be installed automatically. After finishing installation, 'PEMicro OpenSDA Debug Driver' will appear in the Device manager.

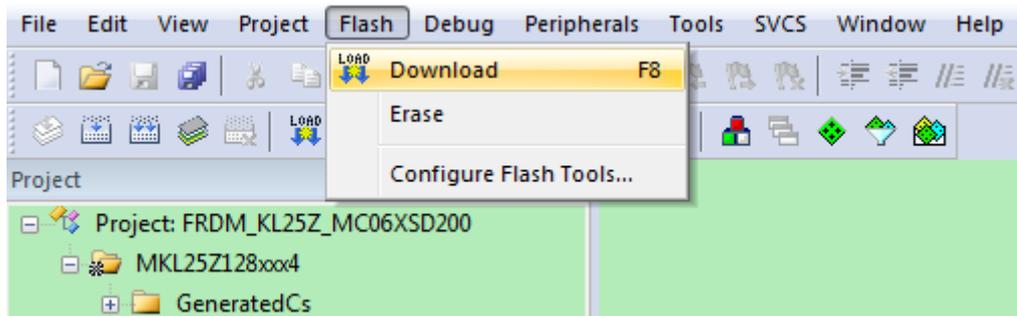


3 Download program image

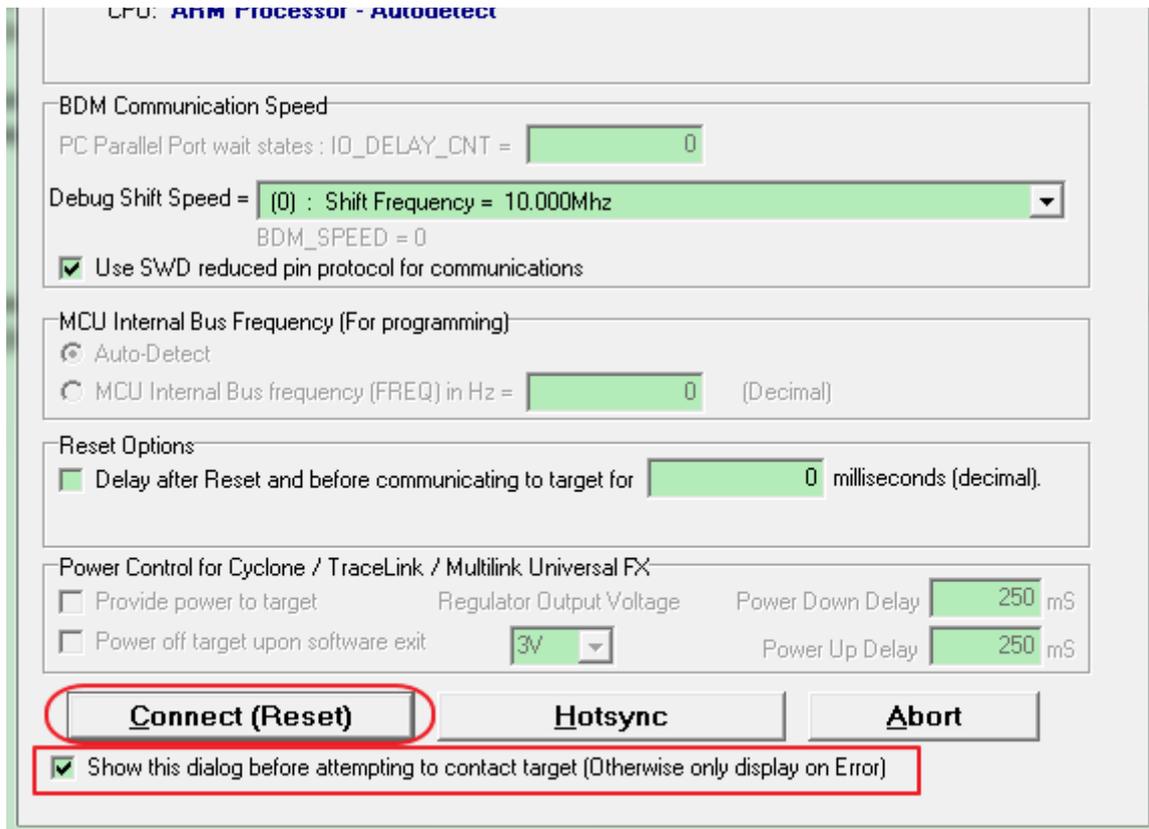
Locate the 'code' folder, find 'FRDM_KL25Z_MC06XSD200' μ Vision project(μ Vision 5.15 or later version), double-click to open it.



Download.



click 'Connect(Reset)' button to go on.



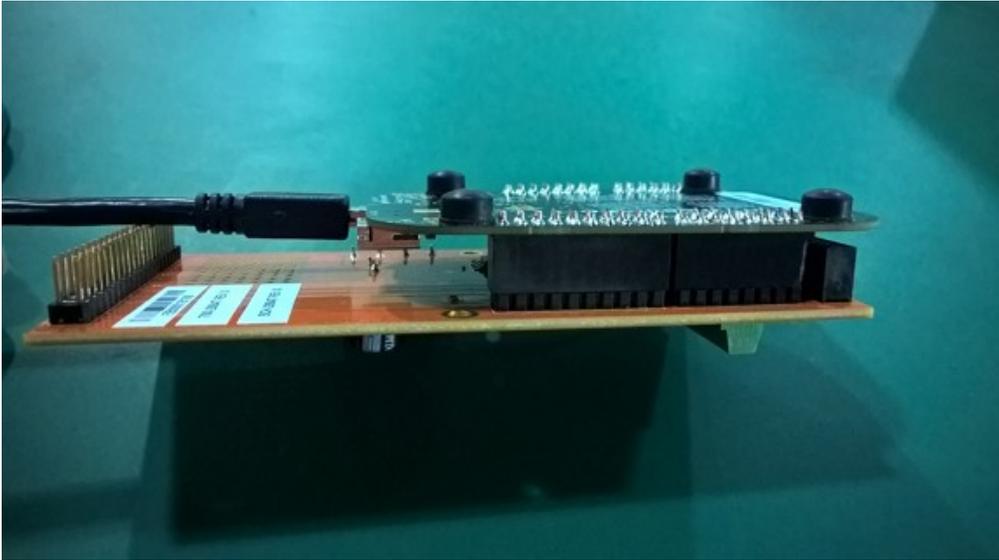
If you want to download directly without displaying this dialog, deselect 'Show this dialog before attempting to contact target(Otherwise only display on Error)' at the bottom of dialog.

download successfully.

```
Build Output
Load "E:\\workspace
Flash Load finished
```

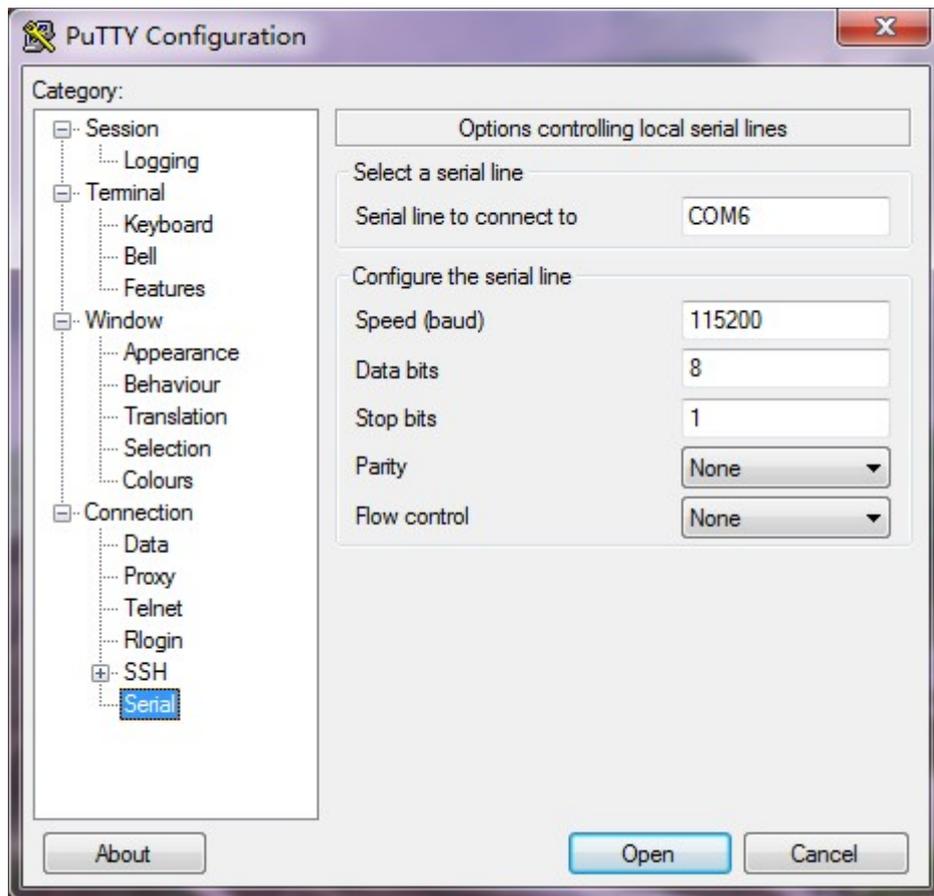
4 run program

Connect FRDM-KL25Z and FRDM-MC36XSD-EVB.



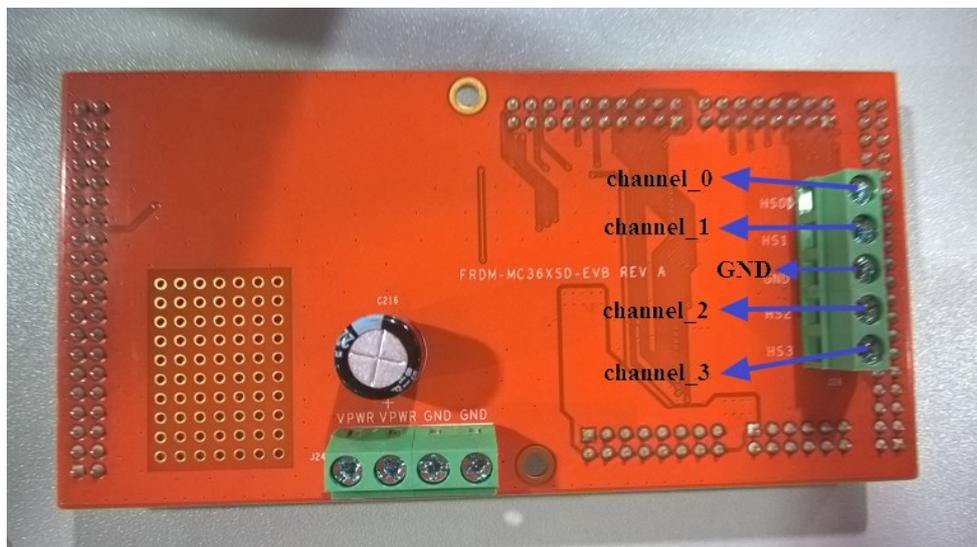
4.1 Setup virtual COM port

After download, reset FRDM-KL25Z. Open a serial terminal emulation program(example for PuTTY), set parameter as shown below(**Note that the COM port number varies from one host PC to the next, find the correct COM port in Device Manager**), then click 'open'.

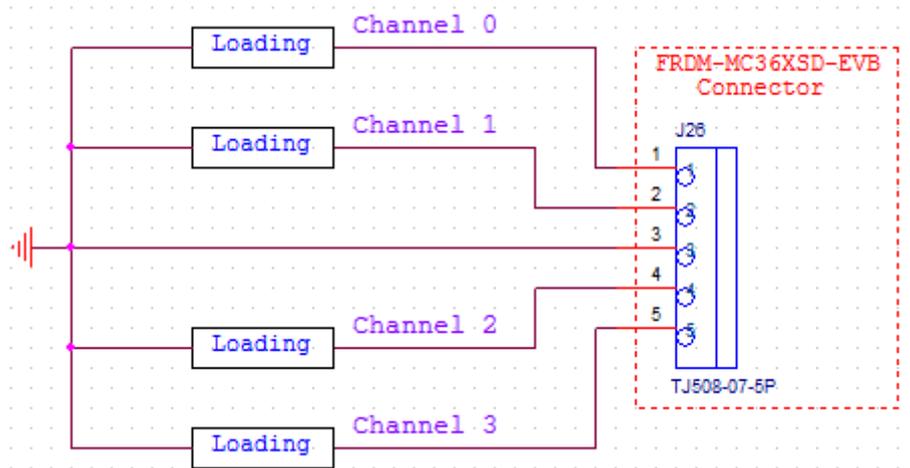


4.2 Print information

Channel_0 ~ Channel_3 on the board FRDM-MC36XSD-EVB.



Channel_0 ~ Channel_3 will be turned on and turned off one by one continuously, the serial terminal will display load current value of respective channel.



Print current value.

```
COM6 - PuTTY
ADC_16bit = 2057
ADC Volt = 103 mV
Channel_1 Current = 85 mA

ADC_16bit = 2080
ADC Volt = 104 mV
Channel_2 Current = 86 mA

ADC_16bit = 2173
ADC Volt = 109 mV
Channel_3 Current = 90 mA

ADC_16bit = 2084
ADC Volt = 104 mV
Channel_0 Current = 86 mA
```