LOW AND HIGH SIDE CURCUIT SWITCHING

Low and high side circuit switching basically determines whether you will connect the switch topically a transistor to a high voltage or to the ground and the selection between the two will depend on the application and preferences

1.The usage:

Low side switching often used in automotive system to control motor, lights and relays

High-side switching is used where isolation of the ground is needed, such as in power distribution systems, or where the load needs to be disconnected from the power rail when the switch is off

2.construction:

low side switching the switch is placed between the load and the ground and the load is connected to the high voltage and the drain of the mosfet form the other side

high side switching the switch is placed between the load and the high voltage and the load is connected to the ground and the source of the mosfet for the other side

3.advantages for each one:

Low Side Switching .simple design

.easy to control

.less cost

. works good with ground reference

High side switching .provide ground isolation for the load

. Reduces noise and potential signal interference

4.Choosing between them:

.When working with a control signal with a ground referenced It’s more suitable to choose low side since the design will be simple

.When cost is a priority so low side it better since it’s more cost effective

.If the isolation the load form the ground is important so it’s more suitable to choose high side

.When working with high power loads the high switching is better since it’s more safe to work with

.If noice would cause a major problem in the design so the high switching is also better option