

Basics of Analog Multiplexers – 4

Multiple choice quiz

TI Precision Labs – Op Amps

Quiz: Basics of Analog Multiplexers – 4

1. The primary function of the internal ESD diodes in the multiplexer device is
 - a. To give protection against ESD events during assembly and test of the devices.
 - b. To clamp the input/output pin to reference point (Supply pins/ GND etc) in the case of an ESD event.
 - c. Turn off the device in case of ESD event.
 - d. Both a & b

2. A latch up condition in a CMOS switch
 - a) Is an undesirable activation of the parasitic SCR structure.
 - b) Has no effect of functionality of device.
 - c) Can lead to excessive current flow in to the device.
 - d) Both a and c

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3. Which one of the following is the protection scheme for a multiplexer in the case of an over-voltage/over-current event at the input?
 - a) Adding a series protection resistor between the input source and the multiplexer input channel
 - b) Clamping the supply pins using a Zener diode or TVS
 - c) Clamping the input voltage within the device recommended conditions using a Zener diode or TVS clamp
 - d) All of the above

4. Adding series diodes in the multiplexer supply path can
 - a) Help prevent latch up
 - b) Limit the signal swing at the multiplexer input
 - c) Has no effect on the multiplexer parasitic latch up
 - d) Both a & b

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5. Protection schemes that include an external schottky diode clamp
 - a) Help with the reduction of device power dissipation in the case of over-voltage.
 - b) Should have schottky diodes with a forward drop less than that of the internal ESD diodes of the device.
 - c) Should have schottky diodes with a forward drop higher than that of the internal ESD diodes of the device.
 - d) Both a & b

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Multiple choice quiz - solutions
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