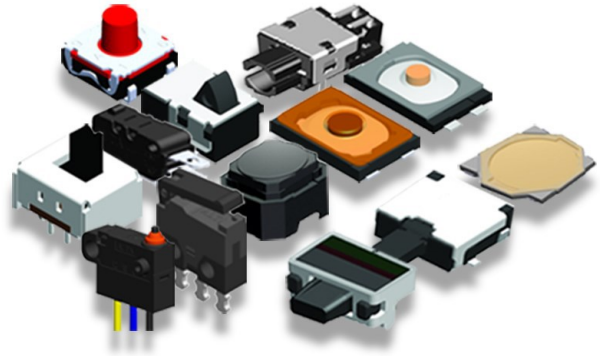
Product Highlight

Understanding Switches

In the world of switches.

Switches are Surge's newest product line, and based upon our recent EDS meetings, we believe these devices are not completely familiar to many of our sales reps. This guide will cover the most common terms used, so you may become more comfortable talking to your customers, including presenting Surge's capabilities. From a sales perspective, we are readily able to cross and provide alternatives with datasheets vs ANY other brands of switches in the market



DIP Switch

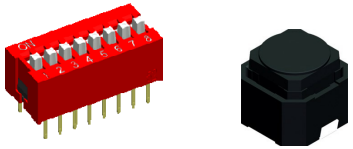
DIP Switches are manual electric switches that are packaged by group into a standard Dual In-line Package (DIP). This type of switch is designed to be used on a printed circuit board along with other electronic components to customize the behavior of an electronic device in specific situations. DIP switches are also known as toggle switches, which mean they have two possible positions -- on or off. (Sometimes instead of on and off, you may see the numbers 1 and 0 on the DIP Switch). **Surge is #1 globally in annual DIP switch production, and private labels for many of the industry's popular brands.**

We are super-competitive on pricing in the DIP, tact and illuminated space.

TACT Switch

A TACT(ile) switch is an on/off electronic switch that is only on when the button is pressed or if there is a definitive change in pressure. It may also function as a momentary "make or break" switch. As soon as a tactile switch's button is released, the circuit is broken. **Surge is #3 globally in annual volume produced for Tact Switches.**

Tact switches are frequently used for keyboards, keypads, instruments or interface control-panel applications. They react to user interaction with the button or switch when it makes contact with the control panel beneath. In most cases this is usually a printed circuit board (PCB).



DIP Switch and TACT switches.

Illuminated Switch

Illuminated switches are switches that emit light (typically via an LED) during operation. The light can be constantly on, can be on dependent of the performance of the switch, or have different light colors based on the operation. (e.g.. red = open, green = closed). For Surge's product line, illuminated switches usually are associated in the form of Tact Switches, but they can be otherwise. **Surge is #5 globally in annual volume produced for Illuminated Switches.**

Operating Force

For a switch to function, there is a certain amount of force that must be exerted on the switch for its mode to change. This minimum force is called an Operating Force. Different end products will have different requirements, so when specifying a switch, be sure to select one that meets or exceeds this specification.

Contact Rating

Indicates the maximum current and voltage that the switch can handle. Any more than these ratings will result in failure of the switch. It is important to keep the customer's requirements below this value. The higher the contact rating is, the better.

Contact Resistance

When a switch is turned on, it will ideally act as if it were a wire with no resistance and allow current flow through. Since a switch is not an ideal conductor, it will have some resistance to it. This specification indicates the resistance the switch will have under normal operating conditions.

Insulation Resistance

Refers to the resistance separating contact terminals. On a switch, there needs to be adequate separation of contacts to prevent unwanted short circuits. Ideally, the higher this value is, the better.

Travel

In order for the switch to turn on or off, there is a certain amount of force that must be put on the actuator of the switch. Once the minimum force is applied, there is a certain distance that the actuator must travel at that force before the mode transition is complete.

For more information contact your local Surge representative or reach Surge directly via sales@surgecomponents.com or by phone 631.595.1818.

Contact Us For Help

Surge Components
95 E Jefryn Blvd. Deer Park, NY 11729

Reps
Contact your local Regional Sales Manager.

Technical Questions
Eric Achille
631.595.1818 x1005
Eric.achille@surgecomponents.com