



Low Profile Switches

Product Training Module



Service ◆ Selection ◆ Speed



Introduction

Purpose

- Introduce designer and engineers to a range of low profile switches available from E-Switch.

Objective

- Explain the advantages of low profile switches.
- Provide an overview regarding the types of low profile switches.
- Review most common applications that utilize low profile switches.

Content

- 9 pages

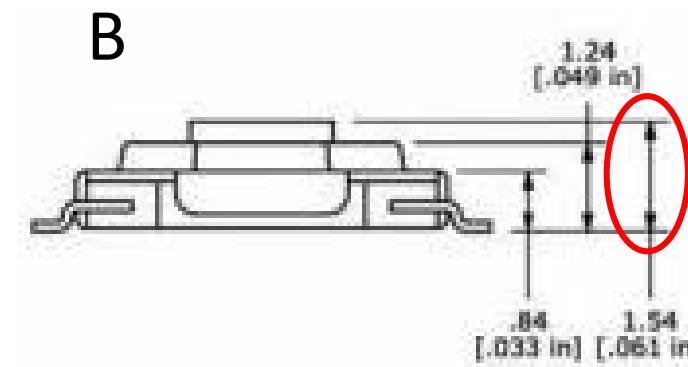
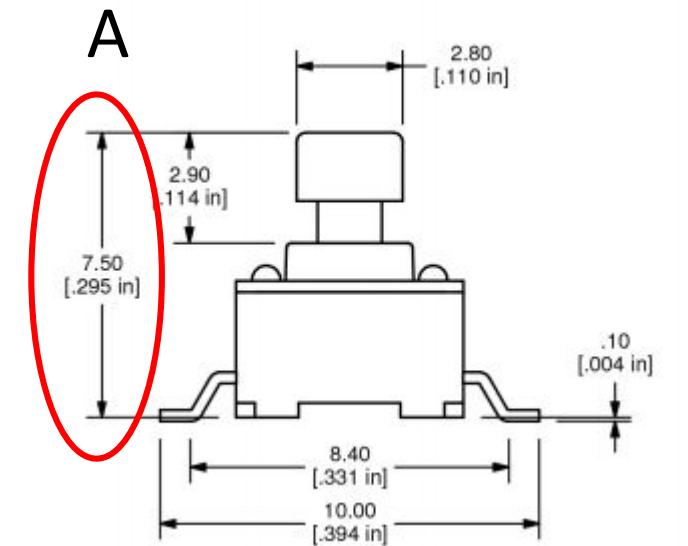
Advantages of Low Profile Switches

Compact size and low profile switches are in demand as some industries focus on light weight portable products. Streamline design applications have limited space for the switch.

“Low profile” refers to the overall height of a switch. This measurement is taken from the bottom of the switch to the top of the switch as in figure A where the profile measures 7.50mm. Figure B has a lower profile of 1.54mm.

Advantages of low profile switches include the following:

- Fit compact space
- Reduces overall package height
- Surface mount design
- Style Options – tact, detector, dip, navigation
- Profile range from .35mm to 3.50mm
- Multiple operating force options
- Many with long cycle life



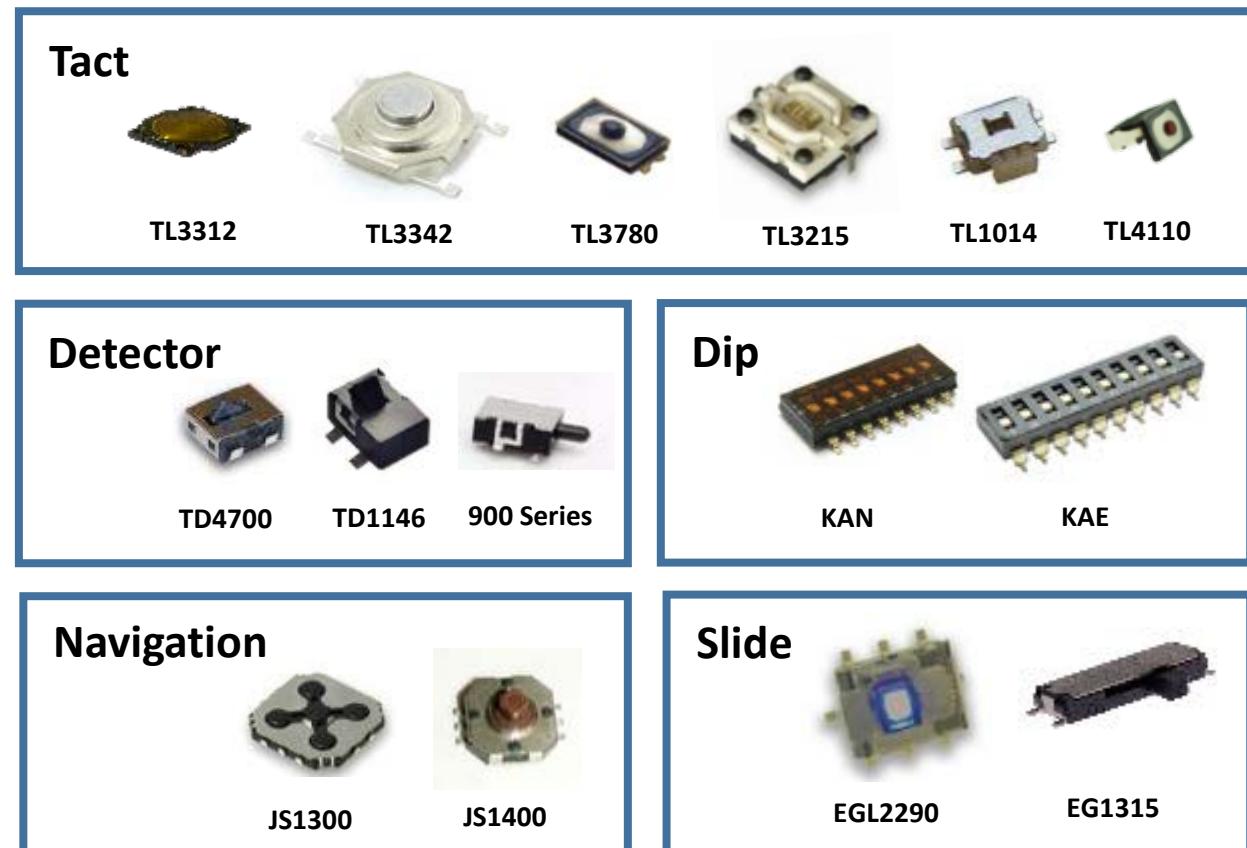
Low Profile Switch Styles

E-Switch offers several low profile switch styles. Those styles include:

- Tact
- Detector
- Dip
- Navigation
- Slide

Several of the tact switches offer options such as right angle design, multiple operating force, illumination and process sealed or IP rated.

The detector and slide switches offer long travel, up to 3.0mm. The selection of dip switches provide up to 12 positions and 5 positions are available on the navigation switches.



Applications for Low Profile Switches

Typically a low profile switch comes in a small package size, which makes them ideal for the wearable technology and handheld devices market. Tact switches are particularly common in this market segment.

These applications would include many of the “smart” devices such as phones, glasses, tablets, security devices, thermostats, lighting controls and numerous types of tracking and monitoring gadgets not only for health and fitness, but the baby and the dog too!

The following industries require low profile switches for many products:

- Wearable and Handheld Technology
- Health & fitness trackers
- Security devices in the form of jewelry
- Internet of Things Technology
- Smart Home Technology Devices
- Telecommunication Equipment
- Networking/Computer/Server Equipment
- Consumer Electronics



Applications for Edge Mount Tact Switch

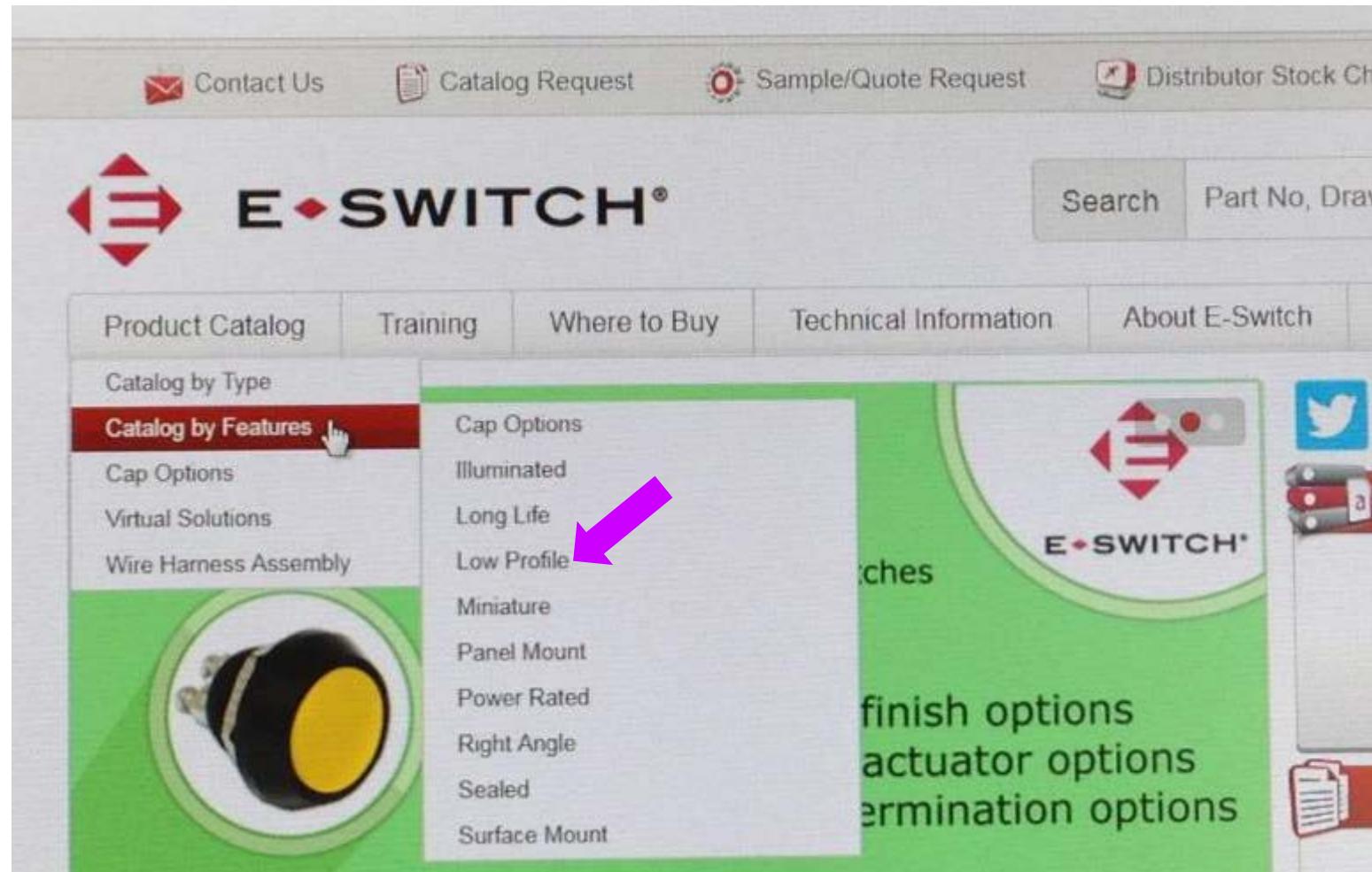
Besides the growing wearable and smart devices market, several other market applications utilize slide, navigation, dip and detector switches which have a compact body design with a low profile. Those markets include:

- Audio/Visual Equipment
- Computer Peripherals
- Medical & Dental Equipment
- Testing & Monitoring Devices
- Instrumentation Equipment
- Houseware Appliances
- Power Tools
- Navigation Devices
- Gaming Devices



Resources

www.e-switch.com Home Page



The screenshot shows the E-SWITCH website home page. At the top, there are four links: Contact Us, Catalog Request, Sample/Quote Request, and Distributor Stock Che. Below the header is the E-SWITCH logo. To the right is a search bar with the placeholder "Search Part No, Draw". The main navigation menu includes Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch. A dropdown menu titled "Catalog by Features" is open, listing the following options: Cap Options, Illuminated, Long Life, Low Profile, Miniature, Panel Mount, Power Rated, Right Angle, Sealed, and Surface Mount. A pink arrow points to the "Low Profile" option. On the left, there is a thumbnail image of a yellow and black switch. On the right, there is a green banner with the E-SWITCH logo and text about finish options, actuator options, and termination options. Social media icons for Twitter and LinkedIn are also present.

- Cap Options
- Illuminated
- Long Life
- Low Profile
- Miniature
- Panel Mount
- Power Rated
- Right Angle
- Sealed
- Surface Mount

Resources

www.e-switch.com

Contact Us Catalog Request Sample/Quote Request Distributor Stock Check Extranet Login

E-SWITCH®

Search Part No, Drawing, Series GO

Product Catalog Training Where to Buy Technical Information About E-Switch **800.867.2717**

FEATURED

PV5
Long Life Anti-vandal Switches

✓ IP65 rated
✓ Multiple actuator finish options
✓ Raised or domed actuator options
✓ Solder or screw termination options

3D Models

Request 3D Model

Product Catalog

Anti-vandal
Detector
DIP
Keylock
Navigation

PVA6(L)
Latching Version

New

Switch Features

- Ring illumination

Product Matrix

Product Matrix Catalog Download

Resources

Data Sheet

TL4110 SERIES TACT SWITCH



APPLICATIONS / MARKETS

- Wearable Electronics
- Internet of Things
- Handheld Devices
- Medical Devices
- Smart Home
- Telecommunications

RoHS

SPECIFICATIONS

- Contact Rating: 20mA @ 15VDC
- Failure Life: 1.5M Cycles
- >Contact Resistance: 50mΩ Max
- Insulation Resistance: 20MΩ Min @ 100VDC
- Dielectric Strength: 250VAC for 1 Minute
- Operating Temperature: -40°C to 85°C
- Storage Temperature: -40°C to 85°C
- Travel: 0.1mm
- Contact Arrangement: 2PST
- Actuation Force: 160gf

FEATURES & BENEFITS

- Surface Mount Series
- 1.5M Cycles Life & 100,000 Cycles
- Extremely Small Surface profile of 2.4mm x 2.8mm
- Switch Mounts along the edge of the PCB for Right Angle Actuation
- 160 gram force

PART NUMBER CONFIGURATOR

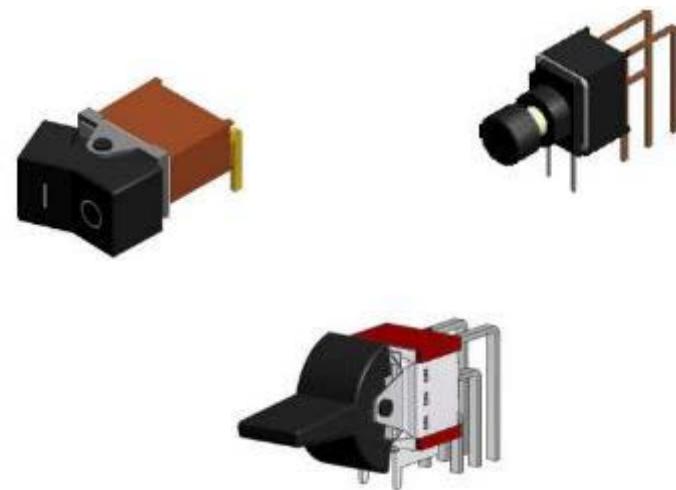
Series	Actuator	Actuation Force	contact Material
TL4110	A=0.05mm	F=160 - 160gf	G=Gold

Specifications subject to change without notice

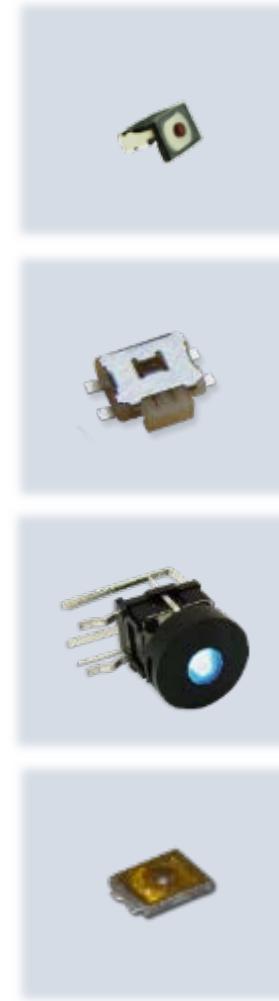
E-SWITCH® www.e-switch.com 800.867.2717

Part Number: TL4110-A-G

3D Models



Switch Samples



Summary

- E-Switch offers several types of low profile switches.
- E-Switch offers several types of right angle switches including pushbutton, tact, detector, navigation, slide and DIP.
- Key advantages include - fit compact space, reduces overall package height, provide surface mount design, offer profile height ranging from .35mm to 3.50mm, provide multiple operating force options and many low profile switch provide a long cycle life.
 - Low profile tact switches are particularly common in the wearable technology and handheld devices market due to their attributes. Markets include: health & fitness trackers, security devices in the form of jewelry, internet of things technology and smart home technology devices.
 - Slide, navigation, dip and detector switches which have a compact body design with a low profile are utilized in the following markets: audio/visual equipment, computer peripherals, medical & dental equipment, testing, monitoring and instrumentation devices, houseware appliances, power tools, navigation devices and gaming devices.