## TL1016 Series Tact Switch



Applications / Markets


## RoHS

## Specifications

Electrical Rating: $50 \mathrm{~mA}, 12 \mathrm{VDC}$
Contact Resistance: $500 \mathrm{~m} \Omega$ Max. (Initial)
Insulation Resistance: $100 \mathrm{M} \Omega$ Min. at 500VDC
Dielectric Strength: 250VAC for 1 Minute
Life Cycles: 100,000 cycles
Operating Temperature: $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$
Storage Temperature: $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$
Travel: $0.20 \mathrm{~mm}+0.2 /-0.1 \mathrm{~mm}$
Operating Force: $160 \mathrm{gf}+70 /-40 \mathrm{gf}$
$220 \mathrm{gf}+80 /-70 \mathrm{gf}$
Function: SPST, Off-(On)
Bounce: 10msec Max.
Contact Material: Silver
Packaging: Tape and Reel, 3,500 pcs/reel

## Features \& Benefits

- $3.5 \times 3.55 \mathrm{~mm}$ size
- Up to 100,000 cycle life expectancy
- Surface mount design
- Multiple actuation force options
- Mounting boss option
- Ground terminal option
- Tape and Reel packaging


## Part Number Configurator

Series

E-SWITCH ${ }^{\circ}$ $\qquad$

## Body Dimensions <br> Without Bosses and <br> Ground Terminal


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## Body Dimensions <br> With Bosses and <br> Without Ground Terminal


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## Body Dimensions

With Ground Terminal

## and Without Bosses


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## Body Dimensions <br> With Bosses and <br> Ground Terminal


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## Body Dimensions <br> Tape and Reel



## Recommended

## Solder Process

Most contamination problems can be prevented by exercising care during the cleaning and soldering process. Care should be taken not to immerse or spray unsealed switches during flux removal. Contact E-Switch for specific soldering recommendations and specifications not shown. Generalized soldering procedures are outlined below.

## "TYPICAL" SMT REFLOW (Pb and Pb-Free)

| Profile Feature | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
| :---: | :---: | :---: |
| Average Ramp-Up Rate ( $\mathrm{Ts}_{\text {max }}$ to Tp ) | $3^{\circ} \mathrm{C} /$ second max. | $3^{\circ} \mathrm{C} /$ second max. |
| Preheat <br> -Temperature $\mathrm{Min}\left(\mathrm{T} s_{\text {min }}\right)$ <br> -Temperature $\mathrm{Max}^{\left(T s_{\text {max }}\right)}$ <br> -Time $\left(\mathrm{ts}_{\text {min }}\right.$ to ts $\left.\mathrm{t}_{\text {max }}\right)$ | $\begin{gathered} 100{ }^{\circ} \mathrm{C} \\ 150^{\circ} \mathrm{C} \\ 60-120 \text { seconds } \end{gathered}$ | $\begin{gathered} 150^{\circ} \mathrm{C} \\ 200^{\circ} \mathrm{C} \\ 60-180 \text { seconds } \end{gathered}$ |
| Time Maintained above: <br> -Temperature ( $\mathrm{T}_{\mathrm{L}}$ ) <br> -Time ( $\mathrm{t}_{\mathrm{L}}$ ) | $\begin{gathered} 183{ }^{\circ} \mathrm{C} \\ 60-150 \text { seconds } \end{gathered}$ | $\begin{gathered} 217{ }^{\circ} \mathrm{C} \\ 60-150 \text { seconds } \end{gathered}$ |
| Time within $5{ }^{\circ} \mathrm{C}$ of actual Peak Temperature (tp) | 10-30 seconds | 20-40 seconds |
| Ramp-Down Rate | $6^{\circ} \mathrm{C} /$ second max. | $6^{\circ} \mathrm{C} /$ second max. |
| Time $25^{\circ} \mathrm{C}$ to Peak Temperature | 6 minutes max. | 8 minutes max. |

Note 1: All temperatures refer to topside of the package, measured on the package surface.


