



# 52-SM Captive Screws

Miniature series · Surface Mount Technology (SMT) Style

- For installation to PC Board material utilizing surface mount technology
- Smaller footprint for limited space applications
- Heat treated steel screw for optimum strength

### Material and Finish

Screw: Hardened carbon steel, zinc plated, chromate, plus sealer  
 Internal spring: 300 series stainless steel, passivated  
 Standoff: Steel, Tin plated  
 Plug: Silicone rubber

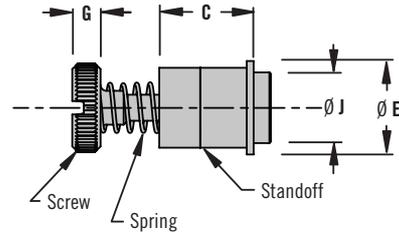
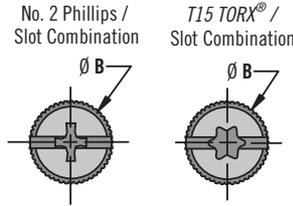
### Installation Notes

Visit [www.southco.com](http://www.southco.com) for additional installation guidelines

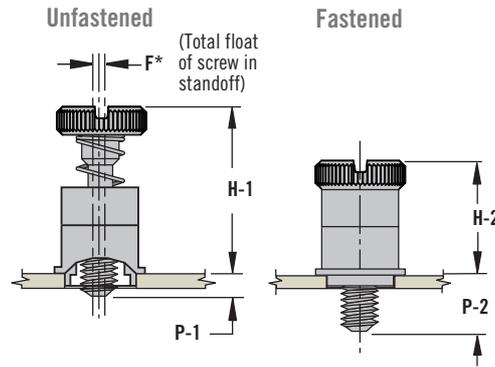
### Part Number

See table

### Recess Styles

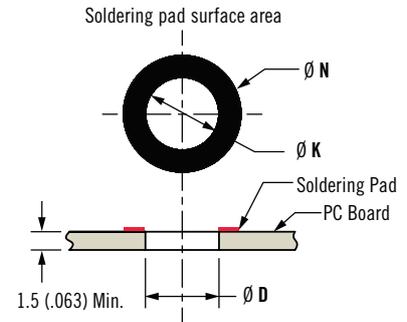


### Screw Height and Screw Projection

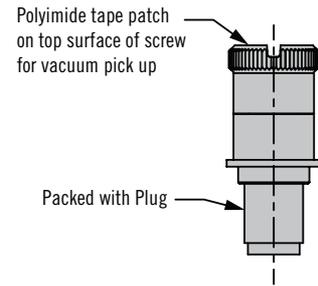


\* Value represents float in unfastened position  
 Notes: P-1, P-2 Screw Projection measured from the top side of panel

### PC Board Preparation



### Screw as Shipped in Reel Pack or Tray Pack



### 52 Captive Screws Miniature Series - SMT Style

#### Part Number

Specify Package  
 Indicate package option with last digit of the part number

#### Example

52-SM-1311-K-R: Reel Package (as shown in table)  
 52-SM-1311-K-T: Tray Package

| Thread Size | Part Number (Reel package shown) |                |                    |                | H-1   | H-2   | P-1        | P-2       | Ø B Knurled Head | Ø B Smooth Head | Ø J    | Ø E   | C     | G    | F*    | Ø K       | Ø N        | Panel Preparation Ø D            |
|-------------|----------------------------------|----------------|--------------------|----------------|-------|-------|------------|-----------|------------------|-----------------|--------|-------|-------|------|-------|-----------|------------|----------------------------------|
|             | Knurled Head                     |                | Smooth Head        |                |       |       |            |           |                  |                 |        |       |       |      |       |           |            |                                  |
|             | Phillips / Slotted               | TORX®/Slotted  | Phillips / Slotted | TORX®/Slotted  |       |       |            |           |                  |                 |        |       |       |      |       |           |            |                                  |
| M3 x 0.5    | 52-SM-3311-K-R                   | 52-SM-3411-K-R | 52-SM-3311-N-R     | 52-SM-3411-N-R | 14    | 9.6   | 0.8 (.03)  | 5.3 (.21) | 7                | 6.8             | 5.5    | 7.6   | 7     | 2.5  | 0.5   | 5.6 (.22) | 8.6 (.34)  | 5.6 +0.08/-0 (.220 +.003/- .000) |
|             | 52-SM-3321-K-R                   | 52-SM-3421-K-R | 52-SM-3321-N-R     | 52-SM-3421-N-R | (.55) | (.38) | 2.3 (.09)  | 6.8 (.27) | (.28)            | (.27)           | (.217) | (.30) | (.28) | (.1) | (.02) |           |            |                                  |
| 4-40        | 52-SM-1311-K-R                   | 52-SM-1411-K-R | 52-SM-1311-N-R     | 52-SM-1411-N-R | 14    | 9.6   | 0.8 (.03)  | 5.3 (.21) | 7                | 6.8             | 5.5    | 7.6   | 7     | 2.5  | 0.5   | 5.6 (.22) | 8.6 (.34)  | 5.6 +0.08/-0 (.220 +.003/- .000) |
|             | 52-SM-1321-K-R                   | 52-SM-1421-K-R | 52-SM-1321-N-R     | 52-SM-1421-N-R | (.55) | (.38) | 2.3 (.09)  | 6.8 (.27) | (.28)            | (.27)           | (.217) | (.30) | (.28) | (.1) | (.02) |           |            |                                  |
| 6-32        | 52-SM-2311-K-R                   | 52-SM-2411-K-R | 52-SM-2311-N-R     | 52-SM-2411-N-R | 15.7  | 10.7  | 0.7 (.028) | 5.8 (.23) | 7.9              | 7.6             | 6.2    | 8.1   | 8.1   | 2.5  | 0.8   | 6.4 (.25) | 10.2 (.40) | 6.4 +0.08/-0 (.252 +.003/- .000) |
|             | 52-SM-2321-K-R                   | 52-SM-2421-K-R | 52-SM-2321-N-R     | 52-SM-2421-N-R | (.62) | (.42) | 2.2 (.087) | 7.4 (.29) | (.31)            | (.30)           | (.244) | (.32) | (.32) | (.1) | (.03) |           |            |                                  |

Other options available. For complete details on variety, part numbers, installation and specification, go to



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Dimensions in millimeters (inch) unless otherwise stated



# Installation Guidelines



Southco Surface Mounted Technology (SMT) Captive Screws include installation and packaging features for installation onto PC Boards during the Reflow Process as a surface mounted device (SMD).

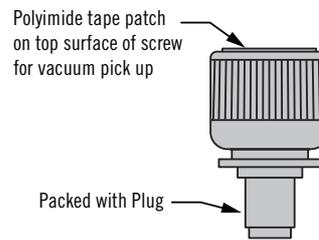
**SMT product installation is offered on these Southco Captive Screws for 4-40, 6-32 and M3 thread sizes:**

- 47 Styled Knob Series
- 4C Prism Series
- 52 Miniature Series

**Installation Features**

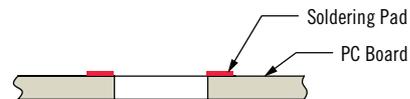
Each Southco SMT style captive screw includes a polyimide patch covering the screw head tool recess allowing for vacuum pick up during placement on the PC Board. The screw threads are protected from excess solder during the reflow process by a plug pre-assembled to the screw by Southco. The patch and plug are then removed after the final cool down phase.

Screw as Shipped in Reel or Tray Pack



**Preparing the PC Board to accept SMT Captive Screws**

- See literature for optimum soldering pad surface area for the specific Southco Captive Screw being utilized



**Packaging Features/Options**

- Tray Pack
- Reel Pack



Tray Pack



Reel Pack

**Reflow Process**

- Reflow of Solder
  - Pre-heat
  - Soak
  - Reflow
  - Cooling
- Cleaning
  - Remove excess solder paste