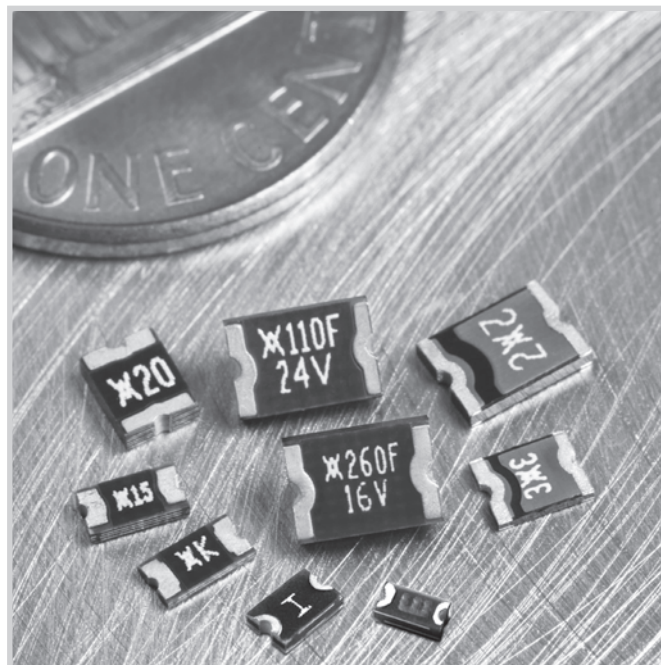


## PolySwitch Resettable Devices Surface-Mount Devices

PolySwitch surface-mount devices are an effective circuit protection method for computer, consumer, multimedia, portable and automotive electronics applications.

In an effort to reduce the size and cost of surface-mount devices, TE Circuit Protection introduced the miniSMD product series in 1995. Subsequently, we developed the microSMD, nanoSMD, picoSMD and femtoSMD family of products. The femtoSMD series reduced the device size to a 1608mm (0603 mils) footprint, which is one-twelfth the size of the popular miniSMD series.

Recent additions to the PolySwitch surface-mount series include 1.1A picoSMD 1210mm (0805 mils) and 0.35A femtoSMD 1608mm (0603 mils) devices.



### Benefits

- Smaller size helps save board space and cost
- Many product choices optimizes design flexibility
- Compatible with high-volume electronics assembly
- Assists in meeting regulatory requirements
- Higher voltage ratings allow use in new applications

### Features

- RoHS compliant
- Halogen free  
(refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm)
- Broadest range of resettable devices available in the industry
- Current ratings from 0.05 to 3A
- Voltage ratings from 6V computer and electronic applications to 60V telecom applications
- Agency recognition: UL, CSA, TÜV
- Small footprint
- Fast time-to-trip
- Low resistance

### Applications

- |                        |                           |                       |
|------------------------|---------------------------|-----------------------|
| • Computer             | • Game machines           | • Automotive          |
| • Portable electronics | • Telephony and broadband | • Industrial controls |
| • Multimedia           | • Mobile phones           | • Battery             |

## Application Selection Table for PolySwitch Surface-Mount Devices

- The table below lists PolySwitch surface-mount devices recommended for use in typical applications
- Specifications for the suggested PolySwitch surface-mount device part numbers can be found in this table
- Once a part has been selected, the user should evaluate and test each product for the intended application

| PolySwitch Resettable Devices - Key Selection Criteria |                        |                            |                   |                   |                                               |
|--------------------------------------------------------|------------------------|----------------------------|-------------------|-------------------|-----------------------------------------------|
| Protection Application                                 | Additional Comments    | Overcurrent<br>Overvoltage | Small Size        | Low Resistance    | Fast Time-to-trip<br>(Temperature Protection) |
| AC Adapter Input Power                                 | Use w/ Zener and Triac |                            | SMD250F           | SMD250F           | SMD200F                                       |
| Battery Pack Protection                                |                        |                            | nanoSMDC150F      | miniSMDC260F      | miniSMDC200F/16                               |
| Charger Protection                                     |                        |                            | nanoSMDC050F      | miniSMDC110F/16   | nanoSMDC075F                                  |
| CPU/IC Protection                                      |                        |                            | nanoSMDC110F      | nanoSMDC150F      | nanoSMDC075F                                  |
| Data Acquisition/Sensor                                |                        |                            | microSMD005F      | -                 | microSMD005F                                  |
| DC Input/Output Power                                  | ≤6V                    |                            | nanoSMDC075F      | nanoSMDC150F      | nanoSMDC050F/13.2                             |
|                                                        | ≤12V                   |                            | miniSMDC075F      | miniSMDC110F/16   | miniSMDC075F                                  |
| DDC                                                    |                        |                            | nanoSMDC075F      | nanoSMDC110F      | nanoSMDC050F/13.2                             |
| Device Bay System                                      | DB12, DB20             |                            | miniSMDC200F      | miniSMDC260F      | miniSMDC200F                                  |
|                                                        | DB32                   |                            | miniSMDC260F      | SMD300F           | miniSMDC200F                                  |
| Ethernet/LAN                                           |                        |                            | nanoSMDC050F/13.2 | miniSMDC110F/16   | nanoSMDC075F                                  |
| Fan                                                    |                        |                            | microSMD035F      | microSMD050F      | microSMD035F                                  |
| HDMI                                                   |                        |                            | picoSMDC035S      | picoSMDC035S      | picoSMDC035S                                  |
| IEEE 802.3af                                           | VoIP                   |                            | decaSMDC050F/60   | decaSMDC050F/60   | decaSMDC050F/60                               |
| IEEE-1394                                              | Power Provider         |                            | SMD100F/33        | SMD185F           | SMD100F/33                                    |
|                                                        | Alt. Power Provider    |                            | SMD185F           | SMD185F           | SMD150F/33                                    |
|                                                        | Self-Powered           |                            | SMD185F           | SMD185F           | SMD150F/33                                    |
| LCD Inverter                                           |                        |                            | nanoSMDC050F/13.2 | miniSMDC110F/16   | nanoSMDC075F                                  |
| LCD Screen Power                                       |                        |                            | nanoSMDC050F/13.2 | nanoSMDC050F/13.2 | microSMD035F                                  |
| LNB (Low Noise Block)                                  |                        |                            | SMD075F           | SMD075F           | SMD050F                                       |
| Motor                                                  | ≤6V                    |                            | nanoSMDC110F      | nanoSMDC150F      | microSMD075F                                  |
|                                                        | ≤13.2V                 |                            | miniSMDC075F      | miniSMDC110F/16   | miniSMDC075F                                  |
| PS/2 Mouse/Keyboard                                    |                        |                            | nanoSMDC075F      | nanoSMDC110F      | nanoSMDC050F/13.2                             |
| Signal - Data Communication                            | ≤6V                    |                            | nanoSMDC075F      | nanoSMDC075F      | nanoSMDC075F                                  |
|                                                        | ≤13.2V                 |                            | miniSMDC050F      | miniSMDC075F      | miniSMDC020F                                  |
|                                                        | ≤30V                   |                            | SMD030F-2018      | SMD075F           | SMD050F                                       |
| SCSI                                                   |                        |                            | nanoSMDC110F      | nanoSMDC150F      | nanoSMDC075F                                  |
| SIM/Smart Card Reader                                  |                        |                            | femtoSMDC010F     | femtoSMDC010F     | femtoSMDC005F                                 |
| Telecom - Modem                                        | Digital Line           | OC                         | miniSMDC014F      | miniSMDC014F      | miniSMDC014F                                  |
| Telecom - PBX                                          | Subscriber             | OC                         | miniSMDC014F      | miniSMDC014F      | miniSMDC014F                                  |
| Temperature Sensor                                     | CPU                    |                            | nanoSMDC050F/13.2 | nanoSMDC075F      | nanoSMDC050F/13.2                             |
| USB                                                    | Individual Port        |                            | nanoSMDC075F      | nanoSMDC110F      | nanoSMDC050F/13.2                             |
|                                                        | 2 Port Ganged          |                            | nanoSMDC150F      | miniSMDC150F      | miniSMDC125F                                  |
|                                                        | 3 Port Ganged          |                            | miniSMDC200F      | miniSMDC200F      | miniSMDC200F                                  |

**Note :** This list is not exhaustive. TE Circuit Protection welcomes our customers' input for additional application ideas for PolySwitch resettable devices.

**Table S1** Product Series: Size, Current Rating, Voltage Rating/Maximum Resistance for PolySwitch Surface-Mount Devices

|                         | femtoSMD                  | picoSMD                   | nanoSMD                    | microSMD                   | miniSMD                     | midSMD                   | SMD                       | SMD2                      | decaSMD                  |
|-------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|--------------------------|---------------------------|---------------------------|--------------------------|
| <b>Size mm</b>          | 1608                      | 2012                      | 3216                       | 3225                       | 4532                        | 5050                     | 7555                      | 8763                      | 5050                     |
| <b>(mils)</b>           | (0603)                    | (0805)                    | (1206)                     | (1210)                     | (1812)                      | (2018)                   | (2920)                    | (3425)                    | (2018)                   |
| <b>Hold Current (A)</b> |                           |                           |                            |                            |                             |                          |                           |                           |                          |
| 0.050                   | 15V <sub>DC</sub> /30.00Ω | —                         | —                          | 30V <sub>DC</sub> /50Ω     | —                           | —                        | —                         | —                         | —                        |
| 0.080                   | 12V <sub>DC</sub> /14.00Ω | —                         | —                          | —                          | —                           | —                        | —                         | —                         | —                        |
| 0.100                   | 12V <sub>DC</sub> /8.00Ω  | 15V <sub>DC</sub> /11.00Ω | —                          | 30V <sub>DC</sub> /15Ω     | 60V <sub>DC</sub> /12.70Ω   | —                        | —                         | —                         | —                        |
| 0.120                   | 9V <sub>DC</sub> /5.80Ω   | 15V <sub>DC</sub> /9.00Ω  | 48V <sub>DC</sub> /6.50Ω   | —                          | —                           | —                        | —                         | —                         | —                        |
| 0.140                   | —                         | —                         | —                          | —                          | 60V <sub>DC</sub> /6.00Ω    | —                        | —                         | —                         | —                        |
| 0.160                   | 9V <sub>DC</sub> /4.20Ω   | —                         | 48V <sub>DC</sub> /5.00Ω   | —                          | —                           | —                        | —                         | —                         | —                        |
| 0.200                   | 9V <sub>DC</sub> /3.00Ω   | 9V <sub>DC</sub> /3.20Ω   | 24V <sub>DC</sub> /3.10Ω   | —                          | 30V <sub>DC</sub> /3.30Ω    | —                        | —                         | —                         | —                        |
| 0.250                   | —                         | —                         | 16V <sub>DC</sub> /2.30Ω   | —                          | —                           | —                        | —                         | —                         | —                        |
| 0.300                   | —                         | —                         | —                          | —                          | 30V <sub>DC</sub> /1.75Ω    | 60V <sub>DC</sub> /2.30Ω | 60V <sub>DC</sub> /4.80Ω  | —                         | —                        |
| 0.350                   | 6V <sub>DC</sub> /1.40Ω   | 6V <sub>DC</sub> /1.40Ω   | 16V <sub>DC</sub> /1.35Ω   | 6V <sub>DC</sub> /1.30Ω    | —                           | —                        | —                         | —                         | —                        |
| 0.500                   | —                         | 6V <sub>DC</sub> /0.80Ω   | 13.2V <sub>DC</sub> /0.75Ω | 13.2V <sub>DC</sub> /0.90Ω | 24V <sub>DC</sub> /1.00Ω    | —                        | 60V <sub>DC</sub> /1.40Ω  | —                         | 60V <sub>DC</sub> /1.10Ω |
| 0.750                   | —                         | 6V <sub>DC</sub> /0.35Ω   | 6V <sub>DC</sub> /0.30Ω    | 6V <sub>DC</sub> /0.40Ω    | 13.2V <sub>DC</sub> /0.45Ω  | —                        | 30V <sub>DC</sub> /1.00Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.29Ω    | —                        | 60V <sub>DC</sub> /1.00Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 33V <sub>DC</sub> /0.39Ω    | —                        | —                         | —                         | —                        |
| 1.000                   | —                         | —                         | —                          | —                          | —                           | 15V <sub>DC</sub> /0.40Ω | 30V <sub>DC</sub> /0.48Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | —                           | —                        | 33V <sub>DC</sub> /0.41Ω  | —                         | —                        |
| 1.100                   | —                         | 6V <sub>DC</sub> /0.17Ω   | 6V <sub>DC</sub> /0.20Ω    | 6V <sub>DC</sub> /0.21Ω    | 8V <sub>DC</sub> /0.21Ω     | —                        | —                         | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.18Ω    | —                        | —                         | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.18Ω    | —                        | —                         | —                         | —                        |
| 1.200                   | —                         | —                         | —                          | —                          | —                           | —                        | 16V <sub>DC</sub> /0.34Ω  | —                         | —                        |
| 1.250                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.14Ω     | —                        | 15V <sub>DC</sub> /0.25Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.14Ω    | —                        | —                         | —                         | —                        |
| 1.500                   | —                         | —                         | 6V <sub>DC</sub> /0.11Ω    | 6V <sub>DC</sub> /0.11Ω    | 6V <sub>DC</sub> /0.11Ω     | 15V <sub>DC</sub> /0.18Ω | 33V <sub>DC</sub> /0.23Ω  | 15V <sub>DC</sub> /0.25Ω  | —                        |
|                         | —                         | —                         | —                          | —                          | 12V <sub>DC</sub> /0.11Ω    | —                        | —                         | 33V <sub>DC</sub> /0.23Ω  | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.11Ω    | —                        | —                         | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.12Ω    | —                        | —                         | —                         | —                        |
| 1.600                   | —                         | —                         | —                          | —                          | 9V <sub>DC</sub> /0.10Ω     | —                        | —                         | 16V <sub>DC</sub> /0.15Ω  | —                        |
| 1.750                   | —                         | —                         | —                          | 6V <sub>DC</sub> /0.08Ω    | —                           | —                        | —                         | —                         | —                        |
| 1.850                   | —                         | —                         | —                          | —                          | —                           | —                        | —                         | 33V <sub>DC</sub> /0.165Ω | —                        |
| 2.000                   | —                         | —                         | 6V <sub>DC</sub> /0.072Ω   | 6V <sub>DC</sub> /0.06Ω    | 8V <sub>DC</sub> /0.07Ω     | 6V <sub>DC</sub> /0.10Ω  | 24V <sub>DC</sub> /0.125Ω | 15V <sub>DC</sub> /0.125Ω | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.085Ω   | —                        | —                         | —                         | —                        |
| 2.500                   | —                         | —                         | —                          | —                          | —                           | —                        | 15V <sub>DC</sub> /0.085Ω | 15V <sub>DC</sub> /0.85Ω  | —                        |
| 2.600                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.043Ω    | —                        | 6V <sub>DC</sub> /0.075Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 12V <sub>DC</sub> /0.047Ω   | —                        | —                         | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 13.2V <sub>DC</sub> /0.050Ω | —                        | —                         | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.050Ω   | —                        | —                         | —                         | —                        |
| 3.000                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.036Ω    | —                        | 6V <sub>DC</sub> /0.048Ω  | —                         | —                        |
|                         | —                         | —                         | —                          | —                          | —                           | —                        | 15V <sub>DC</sub> /0.05Ω  | —                         | —                        |

**Table S2 Thermal Derating for PolySwitch Surface-Mount Devices**  
[Hold Current (A) at Ambient Temperature (°C)]

| Part Number                 | Maximum Ambient Temperature |       |      |      |      |      |      |      |      |      |      |       |
|-----------------------------|-----------------------------|-------|------|------|------|------|------|------|------|------|------|-------|
|                             | -40°C                       | -20°C | 0°C  | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 80°C | 85°C | 125°C |
| <b>femtoSMDC Series</b>     |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 1608mm/0603mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| femtoSMDC005F               | 0.08                        | 0.07  | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 | —     |
| femtoSMDC008F               | 0.13                        | 0.11  | 0.10 | 0.08 | 0.08 | 0.07 | 0.06 | 0.06 | 0.05 | 0.04 | 0.04 | —     |
| femtoSMDC010F               | 0.16                        | 0.14  | 0.12 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | —     |
| femtoSMDC012F               | 0.18                        | 0.16  | 0.14 | 0.12 | 0.12 | 0.11 | 0.10 | 0.08 | 0.08 | 0.07 | 0.06 | —     |
| femtoSMDC016F               | 0.25                        | 0.22  | 0.18 | 0.17 | 0.16 | 0.14 | 0.12 | 0.11 | 0.10 | 0.08 | 0.07 | —     |
| femtoSMDC020F               | 0.30                        | 0.27  | 0.24 | 0.20 | 0.20 | 0.17 | 0.16 | 0.14 | 0.12 | 0.11 | 0.10 | —     |
| femtoSMDC035F               | 0.53                        | 0.47  | 0.41 | 0.36 | 0.35 | 0.30 | 0.27 | 0.25 | 0.22 | 0.19 | 0.17 | —     |
| <b>picoSMDC Series</b>      |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 2012mm/0805mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| picoSMDC010S                | 0.17                        | 0.15  | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | —     |
| picoSMDC012S                | 0.20                        | 0.17  | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | —     |
| picoSMDC020S                | 0.30                        | 0.27  | 0.24 | 0.21 | 0.20 | 0.18 | 0.16 | 0.15 | 0.13 | 0.12 | 0.11 | —     |
| picoSMDC035S                | 0.55                        | 0.49  | 0.44 | 0.37 | 0.35 | 0.31 | 0.28 | 0.26 | 0.23 | 0.20 | 0.18 | —     |
| picoSMDC050S                | 0.70                        | 0.62  | 0.55 | 0.55 | 0.50 | 0.43 | 0.38 | 0.33 | 0.30 | 0.28 | 0.26 | —     |
| NEW picoSMDC075S            | 1.13                        | 1.01  | 0.90 | 0.78 | 0.75 | 0.67 | 0.61 | 0.55 | 0.49 | 0.43 | 0.40 | —     |
| NEW picoSMDC110S            | 1.64                        | 1.47  | 1.30 | 1.14 | 1.10 | 0.97 | 0.89 | 0.80 | 0.72 | 0.64 | 0.59 | —     |
| <b>nanoSMDC Series</b>      |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 3216mm/1206mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| nanoSMDC012F                | 0.20                        | 0.17  | 0.15 | 0.13 | 0.12 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.07 | —     |
| nanoSMDC016F                | 0.21                        | 0.20  | 0.18 | 0.16 | 0.16 | 0.14 | 0.13 | 0.12 | 0.11 | 0.10 | 0.09 | —     |
| nanoSMDC020F                | 0.34                        | 0.30  | 0.26 | 0.22 | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 | 0.09 | 0.08 | —     |
| nanoSMDC025F                | 0.38                        | 0.33  | 0.30 | 0.26 | 0.25 | 0.22 | 0.20 | 0.19 | 0.16 | 0.13 | 0.11 | —     |
| nanoSMDC035F                | 0.58                        | 0.51  | 0.44 | 0.38 | 0.35 | 0.31 | 0.28 | 0.24 | 0.21 | 0.18 | 0.16 | —     |
| nanoSMDC050F/13.2           | 0.78                        | 0.69  | 0.61 | 0.52 | 0.50 | 0.44 | 0.39 | 0.35 | 0.30 | 0.25 | 0.24 | —     |
| nanoSMDC075F                | 1.15                        | 1.04  | 0.92 | 0.78 | 0.75 | 0.69 | 0.63 | 0.58 | 0.51 | 0.46 | 0.43 | —     |
| nanoSMDC110F                | 1.64                        | 1.46  | 1.30 | 1.10 | 1.06 | 0.92 | 0.83 | 0.80 | 0.65 | 0.56 | 0.52 | —     |
| nanoSMDC150F                | 2.20                        | 1.99  | 1.77 | 1.55 | 1.50 | 1.34 | 1.23 | 1.10 | 1.01 | 0.90 | 0.84 | —     |
| nanoSMDC200F                | 2.92                        | 2.64  | 2.35 | 2.07 | 2.00 | 1.79 | 1.64 | 1.50 | 1.36 | 1.22 | 1.15 | —     |
| <b>microSMD Series</b>      |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 3225mm/1210mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| microSMD005F                | 0.08                        | 0.07  | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 | —     |
| microSMD010F                | 0.15                        | 0.13  | 0.12 | 0.10 | 0.10 | 0.09 | 0.08 | 0.06 | 0.06 | 0.05 | 0.05 | —     |
| microSMD035F                | 0.51                        | 0.46  | 0.40 | 0.35 | 0.34 | 0.30 | 0.27 | 0.24 | 0.22 | 0.19 | 0.18 | —     |
| microSMD050F                | 0.76                        | 0.66  | 0.58 | 0.50 | 0.48 | 0.42 | 0.38 | 0.35 | 0.29 | 0.25 | 0.23 | —     |
| microSMD075F                | 1.10                        | 0.97  | 0.86 | 0.75 | 0.72 | 0.64 | 0.58 | 0.55 | 0.47 | 0.42 | 0.39 | —     |
| microSMD110F                | 1.60                        | 1.42  | 1.26 | 1.10 | 1.06 | 0.94 | 0.86 | 0.80 | 0.70 | 0.62 | 0.58 | —     |
| microSMD150F                | 2.30                        | 2.02  | 1.76 | 1.50 | 1.43 | 1.24 | 1.11 | 1.00 | 0.85 | 0.72 | 0.65 | —     |
| microSMD175F                | 2.80                        | 2.45  | 2.10 | 1.75 | 1.70 | 1.55 | 1.45 | 1.35 | 1.25 | 1.15 | 1.10 | —     |
| microSMD200F                | 2.60                        | 2.44  | 2.35 | 2.00 | 1.96 | 1.78 | 1.67 | 1.50 | 1.45 | 1.15 | 1.10 | —     |
| <b>miniSMDC Series</b>      |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 4532mm/1812mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| miniSMDC010F                | 0.17                        | 0.15  | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | —     |
| miniSMDC014F                | 0.23                        | 0.20  | 0.17 | 0.14 | 0.13 | 0.11 | 0.10 | 0.09 | 0.07 | 0.06 | 0.05 | —     |
| miniSMDC020F                | 0.30                        | 0.27  | 0.23 | 0.20 | 0.19 | 0.17 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | —     |
| miniSMDC030F                | 0.49                        | 0.44  | 0.39 | 0.32 | 0.30 | 0.27 | 0.24 | 0.22 | 0.18 | 0.16 | 0.14 | —     |
| miniSMDC050F                | 0.59                        | 0.57  | 0.55 | 0.50 | 0.48 | 0.45 | 0.43 | 0.35 | 0.30 | 0.25 | 0.23 | —     |
| miniSMDC075F                | 1.10                        | 0.99  | 0.87 | 0.75 | 0.72 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.35 | —     |
| miniSMDC075F/24             | 1.50                        | 1.25  | 1.00 | 0.75 | 0.73 | 0.65 | 0.60 | 0.55 | 0.50 | 0.45 | 0.43 | —     |
| NEW miniSMDC075F/33         | 1.09                        | 0.98  | 0.87 | 0.77 | 0.75 | 0.66 | 0.61 | 0.55 | 0.50 | 0.45 | 0.42 | —     |
| miniSMDC100F                | 1.60                        | 1.45  | 1.28 | 1.10 | 1.07 | 0.92 | 0.83 | 0.71 | 0.66 | 0.57 | 0.52 | —     |

**Table S2 Thermal Derating for PolySwitch Surface-Mount Devices**  
**[Hold Current (A) at Ambient Temperature (°C)]**

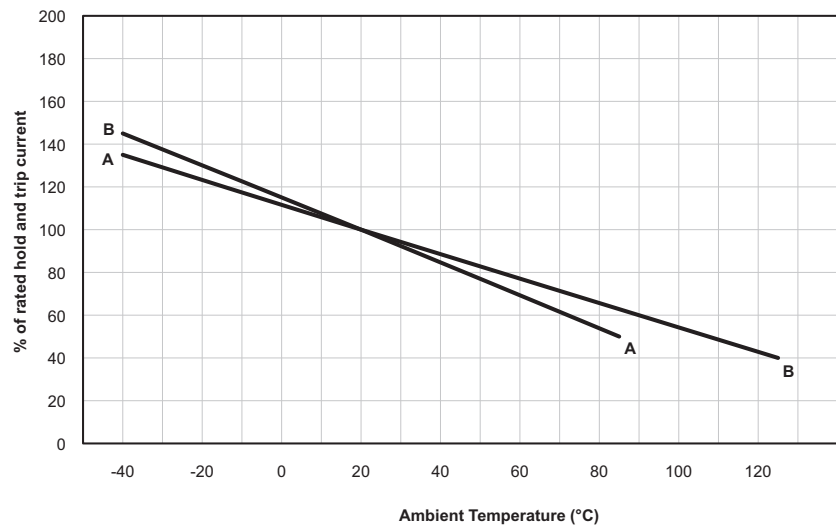
Cont'd

| Part Number                 | Maximum Ambient Temperature |       |      |      |      |      |      |      |      |      |      |       |
|-----------------------------|-----------------------------|-------|------|------|------|------|------|------|------|------|------|-------|
|                             | -40°C                       | -20°C | 0°C  | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 80°C | 85°C | 125°C |
| <b>miniSMDC Series</b>      |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 4532mm/1812mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| miniSMDC110F                | 1.60                        | 1.45  | 1.28 | 1.10 | 1.07 | 0.92 | 0.83 | 0.71 | 0.66 | 0.57 | 0.52 | —     |
| miniSMDC110F/16             | 1.68                        | 1.49  | 1.30 | 1.10 | 1.05 | 0.92 | 0.83 | 0.75 | 0.64 | 0.55 | 0.50 | —     |
| miniSMDC110F/24             | 2.00                        | 1.70  | 1.40 | 1.10 | 1.06 | 0.95 | 0.88 | 0.80 | 0.73 | 0.65 | 0.61 | —     |
| miniSMDC125F                | 2.00                        | 1.69  | 1.47 | 1.25 | 1.17 | 1.03 | 0.92 | 0.90 | 0.69 | 0.58 | 0.53 | —     |
| miniSMDC125F/16             | 2.00                        | 1.69  | 1.47 | 1.25 | 1.17 | 1.03 | 0.92 | 0.90 | 0.69 | 0.58 | 0.53 | —     |
| miniSMDC150F                | 2.30                        | 2.05  | 1.77 | 1.50 | 1.44 | 1.23 | 1.09 | 0.95 | 0.82 | 0.68 | 0.61 | —     |
| miniSMDC150F/12             | 2.40                        | 2.10  | 1.80 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC150F/16             | 2.40                        | 2.10  | 1.80 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC150F/24             | 2.10                        | 1.90  | 1.70 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC160F                | 2.50                        | 2.19  | 1.89 | 1.60 | 1.53 | 1.31 | 1.16 | 1.10 | 0.95 | 0.79 | 0.71 | —     |
| miniSMDC200F                | 2.60                        | 2.44  | 2.22 | 2.00 | 1.96 | 1.78 | 1.67 | 1.50 | 1.45 | 1.34 | 1.29 | —     |
| <b>NEW</b> miniSMDC200F/16  | 3.07                        | 2.74  | 2.40 | 2.07 | 2.00 | 1.74 | 1.57 | 1.40 | 1.24 | 1.07 | 0.99 | —     |
| miniSMDC260F                | 3.40                        | 3.16  | 2.80 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/12             | 3.40                        | 3.16  | 3.00 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/13.2           | 3.40                        | 3.16  | 3.00 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/16             | 3.50                        | 3.20  | 3.00 | 2.60 | 2.53 | 2.30 | 2.15 | 2.00 | 1.85 | 1.70 | 1.63 | —     |
| miniSMDC300F                | 4.13                        | 3.75  | 3.33 | 3.02 | 3.00 | 2.70 | 2.54 | 2.35 | 2.22 | 2.06 | 1.98 | —     |
| <b>midSMD Series</b>        |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 5050mm/2018mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD030F-2018                | 0.48                        | 0.42  | 0.35 | 0.30 | 0.28 | 0.24 | 0.21 | 0.17 | 0.15 | 0.12 | 0.10 | —     |
| decaSMD050F/60              | 1.00                        | 0.85  | 0.70 | 0.55 | 0.53 | 0.45 | 0.40 | 0.35 | 0.30 | 0.25 | 0.23 | —     |
| SMD100F-2018                | 1.59                        | 1.43  | 1.20 | 1.10 | 1.03 | 0.94 | 0.85 | 0.72 | 0.69 | 0.61 | 0.57 | —     |
| SMD150F-2018                | 2.21                        | 1.97  | 1.70 | 1.50 | 1.43 | 1.26 | 1.15 | 1.00 | 0.91 | 0.79 | 0.73 | —     |
| SMD200F-2018                | 2.81                        | 2.54  | 2.27 | 2.00 | 1.93 | 1.73 | 1.59 | 1.46 | 1.32 | 1.19 | 1.12 | —     |
| <b>SMD Series</b>           |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 7555mm/2920mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD030F                     | 0.44                        | 0.39  | 0.32 | 0.30 | 0.28 | 0.26 | 0.23 | 0.19 | 0.18 | 0.17 | 0.15 | —     |
| SMD050F                     | 0.73                        | 0.65  | 0.55 | 0.50 | 0.47 | 0.43 | 0.39 | 0.33 | 0.31 | 0.28 | 0.26 | —     |
| SMD075F                     | 1.11                        | 0.99  | 0.84 | 0.75 | 0.71 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.36 | —     |
| SMD075F/60                  | 1.11                        | 0.99  | 0.84 | 0.75 | 0.71 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.36 | —     |
| SMD100F                     | 1.59                        | 1.43  | 1.20 | 1.10 | 1.03 | 0.94 | 0.85 | 0.72 | 0.69 | 0.61 | 0.57 | —     |
| SMD100F/33                  | 1.48                        | 1.35  | 1.20 | 1.10 | 1.06 | 0.98 | 0.91 | 0.83 | 0.79 | 0.73 | 0.69 | —     |
| SMDH120                     | 2.34                        | 1.96  | 1.58 | 1.20 | 1.15 | 1.02 | 0.92 | 0.83 | 0.74 | 0.65 | 0.60 | 0.26  |
| SMD125F                     | 1.89                        | 1.68  | 1.50 | 1.25 | 1.21 | 1.04 | 0.93 | 0.85 | 0.71 | 0.61 | 0.55 | —     |
| <b>NEW</b> SMD150F/33-2920  | 2.27                        | 2.01  | 1.76 | 1.50 | 1.44 | 1.25 | 1.12 | 0.99 | 0.86 | 0.74 | 0.67 | —     |
| <b>NEW</b> SMD200F/24-2920  | 2.90                        | 2.60  | 2.30 | 2.00 | 1.93 | 1.70 | 1.55 | 1.40 | 1.25 | 1.10 | 1.03 | —     |
| <b>NEW</b> SMD250F/15-2920  | 3.65                        | 3.25  | 2.80 | 2.50 | 2.33 | 2.02 | 1.82 | 1.60 | 1.41 | 1.20 | 1.11 | —     |
| SMD260F                     | 3.82                        | 3.41  | 2.90 | 2.60 | 2.45 | 2.19 | 1.99 | 1.70 | 1.58 | 1.38 | 1.28 | —     |
| SMD300F                     | 4.13                        | 3.75  | 3.30 | 3.00 | 2.87 | 2.62 | 2.43 | 2.25 | 2.00 | 1.87 | 1.78 | —     |
| SMD300F/15                  | 4.20                        | 3.80  | 3.30 | 3.00 | 2.90 | 2.62 | 2.43 | 2.25 | 2.00 | 1.87 | 1.78 | —     |
| <b>SMD2 Series</b>          |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 8763mm/3425mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD150F                     | 2.30                        | 2.04  | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | —     |
| SMD150F/33                  | 2.30                        | 2.04  | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | —     |
| SMDH160                     | 2.14                        | 1.96  | 1.78 | 1.60 | 1.56 | 1.42 | 1.33 | 1.24 | 1.15 | 1.06 | 1.02 | 0.44  |
| SMD185F                     | 2.54                        | 2.29  | 2.20 | 1.85 | 1.80 | 1.55 | 1.43 | 1.31 | 1.19 | 1.06 | 1.00 | —     |
| SMD200F                     | 3.01                        | 2.67  | 2.30 | 2.00 | 1.90 | 1.66 | 1.50 | 1.30 | 1.16 | 0.99 | 0.91 | —     |
| SMD250F                     | 3.72                        | 3.31  | 2.80 | 2.50 | 2.35 | 2.09 | 1.89 | 1.60 | 1.48 | 1.28 | 1.18 | —     |

**Figure S1 Thermal Derating Curve for PolySwitch Surface-Mount Devices**

**A =** femtoSMD / picoSMD /  
nanoSMD / microSMD /  
miniSMD / decaSMD and SMD

**B =** SMDH120 and SMDH160

**Figure S1**

**Table S3 Electrical Characteristics for PolySwitch Surface-Mount Devices at Room Temperature**

| Part Number                              | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | I <sub>MAX</sub><br>(A) | P <sub>D</sub> MAX<br>(W) | Max Time-to-Trip |      | R <sub>MIN</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Figure for<br>Dimensions |
|------------------------------------------|-----------------------|-----------------------|----------------------------------------|-------------------------|---------------------------|------------------|------|-------------------------|--------------------------|--------------------------|
|                                          |                       |                       |                                        |                         |                           | (A)              | (S)  |                         |                          |                          |
| femtoSMDC Series<br>Size 1608mm/0603mils |                       |                       |                                        |                         |                           |                  |      |                         |                          |                          |
| femtoSMDC005F                            | 0.05                  | 0.15                  | 15                                     | 40                      | 0.50                      | 0.50             | 0.10 | 3.80                    | 30.00                    | S2                       |
| femtoSMDC008F                            | 0.08                  | 0.20                  | 12                                     | 40                      | 0.50                      | 0.60             | 0.10 | 2.80                    | 14.00                    | S2                       |
| femtoSMDC010F                            | 0.10                  | 0.25                  | 12                                     | 40                      | 0.50                      | 0.70             | 0.10 | 1.70                    | 8.00                     | S2                       |
| femtoSMDC012F                            | 0.12                  | 0.30                  | 9                                      | 40                      | 0.50                      | 0.80             | 0.10 | 1.10                    | 5.80                     | S2                       |
| femtoSMDC016F                            | 0.16                  | 0.40                  | 9                                      | 40                      | 0.50                      | 1.00             | 0.10 | 1.00                    | 4.20                     | S2                       |
| femtoSMDC020F                            | 0.20                  | 0.45                  | 9                                      | 40                      | 0.50                      | 2.00             | 0.10 | 0.70                    | 3.00                     | S2                       |
| femtoSMDC035F                            | 0.35                  | 0.70                  | 6                                      | 40                      | 0.50                      | 3.50             | 0.10 | 0.20                    | 1.40                     | S2                       |
| picoSMDC Series<br>Size 2012mm/0805mils  |                       |                       |                                        |                         |                           |                  |      |                         |                          |                          |
| picoSMDC010S                             | 0.10                  | 0.30                  | 15                                     | 100                     | 0.50                      | 0.50             | 0.60 | 1.50                    | 11.00                    | S2                       |
| picoSMDC012S                             | 0.12                  | 0.30                  | 15                                     | 100                     | 0.50                      | 1.00             | 0.10 | 1.50                    | 9.00                     | S2                       |
| picoSMDC020S                             | 0.20                  | 0.47                  | 9                                      | 100                     | 0.50                      | 2.00             | 0.10 | 0.75                    | 3.20                     | S2                       |
| picoSMDC035S                             | 0.35                  | 0.75                  | 6                                      | 100                     | 0.50                      | 1.75             | 0.20 | 0.35                    | 1.40                     | S2                       |
| picoSMDC050S                             | 0.50                  | 1.00                  | 6                                      | 100                     | 0.50                      | 8.00             | 0.10 | 0.15                    | 0.80                     | S2                       |
| picoSMDC075S                             | 0.75                  | 1.50                  | 6                                      | 40                      | 0.70                      | 8.00             | 0.20 | 0.10                    | 0.35                     | S2                       |
| picoSMDC110S                             | 1.10                  | 2.20                  | 6                                      | 40                      | 0.80                      | 8.00             | 0.20 | 0.05                    | 0.17                     | S2                       |
| nanoSMDC Series<br>Size 3216mm/1206mils  |                       |                       |                                        |                         |                           |                  |      |                         |                          |                          |
| nanoSMDC012F                             | 0.12                  | 0.39                  | 48                                     | 10                      | 0.50                      | 1.00             | 0.20 | 1.40                    | 6.50                     | S2                       |
| nanoSMDC016F                             | 0.16                  | 0.45                  | 48                                     | 10                      | 0.50                      | 1.00             | 0.30 | 1.10                    | 5.00                     | S2                       |
| nanoSMDC020F                             | 0.20                  | 0.42                  | 24                                     | 100                     | 0.60                      | 8.00             | 0.10 | 0.65                    | 3.10                     | S2                       |
| nanoSMDC025F                             | 0.25                  | 0.58                  | 16                                     | 100                     | 0.60                      | 8.00             | 0.01 | 0.55                    | 2.30                     | S2                       |
| nanoSMDC035F                             | 0.35                  | 0.75                  | 16                                     | 20                      | 0.60                      | 3.50             | 0.10 | 0.45                    | 1.35                     | S2                       |
| nanoSMDC050F/13.2                        | 0.50                  | 1.10                  | 13.2                                   | 100                     | 0.80                      | 8.00             | 0.10 | 0.20                    | 0.75                     | S2                       |
| nanoSMDC075F                             | 0.75                  | 1.50                  | 6                                      | 100                     | 0.80                      | 8.00             | 0.10 | 0.09                    | 0.30                     | S2                       |
| nanoSMDC110F                             | 1.10                  | 2.20                  | 6                                      | 100                     | 0.80                      | 8.00             | 0.10 | 0.07                    | 0.20                     | S2                       |
| nanoSMDC150F                             | 1.50                  | 3.00                  | 6                                      | 100                     | 0.80                      | 8.00             | 0.30 | 0.04                    | 0.11                     | S2                       |
| nanoSMDC200F                             | 2.00                  | 4.00                  | 6                                      | 100                     | 1.00                      | 8.00             | 1.50 | 0.02                    | 0.072                    | S2                       |

**Table S3** Electrical Characteristics for PolySwitch Surface-Mount Devices at Room Temperature

Cont'd

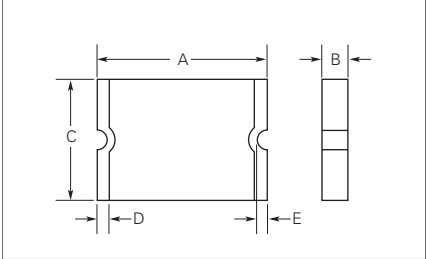
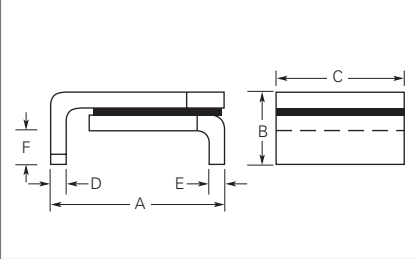
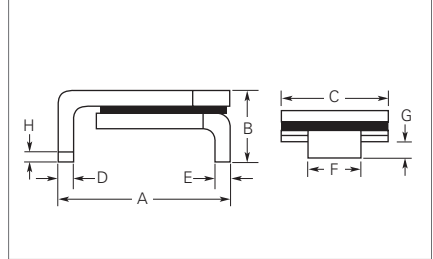
| Part Number                             | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | I <sub>MAX</sub><br>(A) | P <sub>D MAX</sub><br>(W) | Max Time-to-Trip |       | R <sub>MIN</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Figure for<br>Dimensions |
|-----------------------------------------|-----------------------|-----------------------|----------------------------------------|-------------------------|---------------------------|------------------|-------|-------------------------|--------------------------|--------------------------|
|                                         |                       |                       |                                        |                         |                           | (A)              | (S)   |                         |                          |                          |
| microSMD Series<br>Size 3225mm/1210mils |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| microSMD005F                            | 0.05                  | 0.15                  | 30                                     | 10                      | 1.00                      | 0.25             | 1.50  | 3.60                    | 50.00                    | S2                       |
| microSMD010F                            | 0.10                  | 0.25                  | 30                                     | 10                      | 0.80                      | 0.50             | 1.00  | 2.10                    | 15.00                    | S2                       |
| microSMD035F                            | 0.35                  | 0.75                  | 6                                      | 40                      | 0.80                      | 8.00             | 0.20  | 0.32                    | 1.30                     | S2                       |
| microSMD050F                            | 0.50                  | 1.00                  | 13.2                                   | 40                      | 0.80                      | 8.00             | 0.05  | 0.25                    | 0.90                     | S2                       |
| microSMD075F                            | 0.75                  | 1.50                  | 6                                      | 40                      | 0.80                      | 8.00             | 0.10  | 0.11                    | 0.40                     | S2                       |
| microSMD110F                            | 1.10                  | 2.20                  | 6                                      | 40                      | 0.80                      | 8.00             | 0.20  | 0.07                    | 0.21                     | S2                       |
| microSMD150F                            | 1.50                  | 3.00                  | 6                                      | 40                      | 0.80                      | 8.00             | 1.00  | 0.04                    | 0.11                     | S2                       |
| microSMD175F                            | 1.75                  | 3.50                  | 6                                      | 40                      | 0.80                      | 8.00             | 0.80  | 0.025                   | 0.08                     | S2                       |
| microSMD200F                            | 2.00                  | 4.00                  | 6                                      | 100                     | 0.80                      | 8.00             | 2.50  | 0.020                   | 0.06                     | S2                       |
| miniSMDC Series<br>Size 4532mm/1812mils |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| miniSMDC010F                            | 0.10                  | 0.30                  | 60                                     | 40                      | 0.75                      | 0.50             | 5.00  | 0.70                    | 12.70                    | S2                       |
| miniSMDC014F                            | 0.14                  | 0.28                  | 60                                     | 10                      | 0.75                      | 8.00             | 0.008 | 1.50                    | 6.00                     | S2                       |
| miniSMDC020F                            | 0.20                  | 0.40                  | 30                                     | 10                      | 0.80                      | 8.00             | 0.02  | 0.60                    | 3.30                     | S2                       |
| miniSMDC030F                            | 0.30                  | 0.60                  | 30                                     | 40                      | 0.80                      | 8.00             | 0.10  | 0.20                    | 1.75                     | S2                       |
| miniSMDC050F                            | 0.50                  | 1.00                  | 24                                     | 100                     | 0.80                      | 8.00             | 0.15  | 0.15                    | 1.00                     | S2                       |
| miniSMDC075F                            | 0.75                  | 1.50                  | 13.2                                   | 100                     | 1.00                      | 8.00             | 0.20  | 0.11                    | 0.45                     | S2                       |
| miniSMDC075F/24                         | 0.75                  | 1.50                  | 24                                     | 40                      | 0.80                      | 8.00             | 0.30  | 0.09                    | 0.29                     | S2                       |
| NEW miniSMDC075F/33                     | 0.75                  | 1.60                  | 33                                     | 100                     | 1.00                      | 8.00             | 1.00  | 0.11                    | 0.39                     | S2                       |
| miniSMDC100F                            | 1.10                  | 2.20                  | 8                                      | 100                     | 1.20                      | 8.00             | 0.30  | 0.04                    | 0.21                     | S2                       |
| miniSMDC110F                            | 1.10                  | 2.20                  | 8                                      | 100                     | 1.20                      | 8.00             | 0.30  | 0.04                    | 0.21                     | S2                       |
| miniSMDC110F/16                         | 1.10                  | 2.20                  | 16                                     | 100                     | 0.80                      | 8.00             | 0.30  | 0.06                    | 0.18                     | S2                       |
| miniSMDC110F/24                         | 1.10                  | 2.20                  | 24                                     | 20                      | 0.80                      | 8.00             | 0.50  | 0.06                    | 0.18                     | S2                       |
| miniSMDC125F                            | 1.25                  | 2.50                  | 6                                      | 100                     | 0.80                      | 8.00             | 0.40  | 0.05                    | 0.14                     | S2                       |
| miniSMDC125F/16                         | 1.25                  | 2.50                  | 16                                     | 100                     | 0.80                      | 8.00             | 0.40  | 0.05                    | 0.14                     | S2                       |
| miniSMDC150F                            | 1.50                  | 3.00                  | 6                                      | 100                     | 0.80                      | 8.00             | 0.50  | 0.04                    | 0.11                     | S2                       |
| miniSMDC150F/12                         | 1.50                  | 2.80                  | 12                                     | 100                     | 0.80                      | 8.00             | 0.50  | 0.04                    | 0.11                     | S2                       |
| miniSMDC150F/16                         | 1.50                  | 2.80                  | 16                                     | 100                     | 0.80                      | 8.00             | 0.50  | 0.04                    | 0.11                     | S2                       |
| miniSMDC150F/24                         | 1.50                  | 3.00                  | 24                                     | 20                      | 1.00                      | 8.00             | 1.50  | 0.04                    | 0.12                     | S2                       |
| miniSMDC160F                            | 1.60                  | 3.20                  | 9                                      | 100                     | 0.80                      | 8.00             | 1.00  | 0.03                    | 0.10                     | S2                       |
| miniSMDC200F                            | 2.00                  | 4.00                  | 8                                      | 100                     | 1.00                      | 8.00             | 5.00  | 0.020                   | 0.070                    | S2                       |
| NEW miniSMDC200F/16                     | 2.00                  | 4.00                  | 16                                     | 40                      | 1.20                      | 8.00             | 5.00  | 0.020                   | 0.085                    | S2                       |
| miniSMDC260F                            | 2.60                  | 5.00                  | 6                                      | 100                     | 1.00                      | 8.00             | 5.00  | 0.015                   | 0.043                    | S2                       |
| miniSMDC260F/12                         | 2.60                  | 5.00                  | 12                                     | 100                     | 1.00                      | 8.00             | 5.00  | 0.015                   | 0.047                    | S2                       |
| miniSMDC260F/13.2                       | 2.60                  | 5.00                  | 13.2                                   | 100                     | 1.20                      | 8.00             | 5.00  | 0.015                   | 0.050                    | S2                       |
| miniSMDC260F/16                         | 2.60                  | 5.00                  | 16                                     | 100                     | 1.20                      | 8.00             | 5.00  | 0.015                   | 0.050                    | S2                       |
| miniSMDC300F                            | 3.00                  | 6.00                  | 6                                      | 100                     | 1.00                      | 8.00             | 5.00  | 0.011                   | 0.036                    | S2                       |
| midSMD Series<br>Size 5050mm/2018mils   |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| SMD030F-2018                            | 0.30                  | 0.80                  | 60                                     | 20                      | 1.50                      | 1.50             | 1.50  | 0.500                   | 2.30                     | S3                       |
| decaSMDC050F/60                         | 0.55                  | 1.10                  | 60                                     | 10                      | 1.00                      | 8.00             | 0.10  | 0.200                   | 1.10                     | S2                       |
| SMD100F-2018                            | 1.10                  | 2.20                  | 15                                     | 40                      | 1.40                      | 8.00             | 0.50  | 0.100                   | 0.40                     | S3                       |
| SMD150F-2018                            | 1.50                  | 3.00                  | 15                                     | 40                      | 1.80                      | 8.00             | 1.00  | 0.070                   | 0.18                     | S3                       |
| SMD200F-2018                            | 2.00                  | 4.20                  | 6                                      | 40                      | 1.50                      | 8.00             | 3.00  | 0.048                   | 0.10                     | S3                       |

**Table S3** Electrical Characteristics for PolySwitch Surface-Mount Devices  
at Room Temperature

Cont'd

| Part Number          | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | I <sub>MAX</sub><br>(A) | P <sub>D MAX</sub><br>(W) | Max Time-to-Trip |       | R <sub>MIN</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Figure for<br>Dimensions |
|----------------------|-----------------------|-----------------------|----------------------------------------|-------------------------|---------------------------|------------------|-------|-------------------------|--------------------------|--------------------------|
|                      | (A)                   | (A)                   | (V <sub>DC</sub> )                     | (A)                     | (W)                       | (A)              | (S)   |                         |                          |                          |
| SMD Series           |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| Size 755mm/2920mils  |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| SMD030F              | 0.30                  | 0.60                  | 60                                     | 10                      | 1.70                      | 1.50             | 3.00  | 1.200                   | 4.800                    | S4                       |
| SMD050F              | 0.50                  | 1.00                  | 60                                     | 10                      | 1.70                      | 2.50             | 4.00  | 0.350                   | 1.400                    | S4                       |
| SMD075F              | 0.75                  | 1.50                  | 30                                     | 40                      | 1.70                      | 8.00             | 0.30  | 0.350                   | 1.000                    | S4                       |
| SMD075F/60           | 0.75                  | 1.50                  | 60                                     | 10                      | 1.70                      | 8.00             | 0.30  | 0.350                   | 1.000                    | S4                       |
| SMD100F              | 1.10                  | 2.20                  | 30                                     | 40                      | 1.70                      | 8.00             | 0.50  | 0.120                   | 0.480                    | S4                       |
| SMD100F/33           | 1.10                  | 2.20                  | 33                                     | 40                      | 1.70                      | 8.00             | 0.50  | 0.120                   | 0.410                    | S4                       |
| SMDH120              | 1.20                  | 2.30                  | 16                                     | 50                      | 2.00                      | 8.00             | 2.00  | 0.150                   | 0.340                    | S4                       |
| SMD125F              | 1.25                  | 2.50                  | 15                                     | 40                      | 1.70                      | 8.00             | 2.00  | 0.070                   | 0.250                    | S4                       |
| NEW SMD150F/33-2920  | 1.50                  | 3.00                  | 33                                     | 40                      | 1.50                      | 8.00             | 5.00  | 0.080                   | 0.230                    | S4                       |
| NEW SMD200F/24-2920  | 2.00                  | 4.00                  | 24                                     | 40                      | 1.50                      | 8.00             | 5.00  | 0.050                   | 0.125                    | S4                       |
| NEW SMD250F/15-2920  | 2.50                  | 5.00                  | 15                                     | 40                      | 1.50                      | 8.00             | 10.00 | 0.035                   | 0.085                    | S4                       |
| SMD260F              | 2.60                  | 5.20                  | 6                                      | 40                      | 1.70                      | 8.00             | 20.00 | 0.025                   | 0.075                    | S4                       |
| SMD300F              | 3.00                  | 6.00                  | 6                                      | 40                      | 1.50                      | 8.00             | 35.00 | 0.015                   | 0.048                    | S4                       |
| SMD300F/15           | 3.00                  | 6.00                  | 15                                     | 40                      | 1.50                      | 8.00             | 35.00 | 0.015                   | 0.050                    | S4                       |
| SMD2 Devices         |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| Size 8763mm/3425mils |                       |                       |                                        |                         |                           |                  |       |                         |                          |                          |
| SMD150F              | 1.50                  | 3.00                  | 15                                     | 40                      | 1.90                      | 8.00             | 5.00  | 0.060                   | 0.250                    | S4                       |
| SMD150F/33           | 1.50                  | 3.00                  | 33                                     | 40                      | 1.90                      | 8.00             | 5.00  | 0.080                   | 0.230                    | S4                       |
| SMDH160              | 1.60                  | 3.20                  | 16                                     | 70                      | 2.20                      | 8.00             | 15.00 | 0.050                   | 0.150                    | S4                       |
| SMD185F              | 1.85                  | 3.60                  | 33                                     | 40                      | 1.50                      | 8.00             | 5.00  | 0.065                   | 0.165                    | S4                       |
| SMD200F              | 2.00                  | 4.00                  | 15                                     | 40                      | 1.90                      | 8.00             | 12.00 | 0.050                   | 0.125                    | S4                       |
| SMD250F              | 2.50                  | 5.00                  | 15                                     | 40                      | 1.90                      | 8.00             | 25.00 | 0.035                   | 0.085                    | S4                       |

**Figures S2-S4** Dimension Figures for Surface-Mount Devices

**Figure S2**

**Figure S3**

**Figure S4**

**Table S4** Dimensions for PolySwitch Surface-Mount Devices in Millimeters (Inches)

| Part Number          | A       |         | B       |         | C       |         | D       |         | E       |     | F   |     | G   |     | H   |     | Figure |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----|-----|-----|-----|-----|-----|-----|--------|
|                      | Min     | Max     | Min     | Max     | Min     | Max     | Min     | Max     | Min     | Max | Min | Max | Min | Max | Min | Max |        |
| femtoSMDC Series     |         |         |         |         |         |         |         |         |         |     |     |     |     |     |     |     |        |
| Size 1608mm/0603mils |         |         |         |         |         |         |         |         |         |     |     |     |     |     |     |     |        |
| femtoSMDC005F        | 1.40    | 1.80    | 0.45    | 0.85    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.017) | (0.033) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC008F        | 1.40    | 1.80    | 0.45    | 0.85    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.017) | (0.033) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC010F        | 1.40    | 1.80    | 0.45    | 0.85    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.017) | (0.033) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC012F        | 1.40    | 1.80    | 0.35    | 0.75    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.013) | (0.030) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC016F        | 1.40    | 1.80    | 0.35    | 0.75    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.013) | (0.030) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC020F        | 1.40    | 1.80    | 0.35    | 0.75    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.013) | (0.030) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |
| femtoSMDC035F        | 1.40    | 1.80    | 0.40    | 0.65    | 0.60    | 1.00    | 0.10    | 0.50    | 0.075   | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | (0.055) | (0.071) | (0.016) | (0.026) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | —   | —   | —   | —   | —   | —   | —   |        |

**Table S4 Dimensions for PolySwitch Surface-Mount Devices in Millimeters (Inches)**

Cont'd

|                      | Part Number       | A               |                 | B               |                 | C               |                 | D               |                 | E                |     | F   |     | G   |     | H   |     | Figure |
|----------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----|-----|-----|-----|-----|-----|-----|--------|
|                      |                   | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max             | Min              | Max | Min | Max | Min | Max | Min | Max |        |
| picoSMDC Series      |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
| Size 2012mm/0805mils |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
|                      | picoSMDC010S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.60<br>(0.023) | 1.00<br>(0.040) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | picoSMDC012S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | picoSMDC020S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | picoSMDC035S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | picoSMDC050S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.63<br>(0.025) | 0.93<br>(0.036) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
| NEW                  | picoSMDC075S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.63<br>(0.025) | 0.93<br>(0.036) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
| NEW                  | picoSMDC110S      | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.80<br>(0.031) | 1.20<br>(0.047) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
| nanoSMDC Series      |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
| Size 3216mm/1206mils |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
|                      | nanoSMDC012F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.62<br>(0.024) | 1.00<br>(0.039) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC016F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.62<br>(0.024) | 1.00<br>(0.039) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC020F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC025F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC035F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC050F/13.2 | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.50<br>(0.019) | 0.74<br>(0.029) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC075F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC110F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.28<br>(0.011) | 0.67<br>(0.026) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC150F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.55<br>(0.022) | 0.89<br>(0.035) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | nanoSMDC200F      | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.83<br>(0.033) | 1.10<br>(0.043) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
| microSMD Series      |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
| Size 3225mm/1210mils |                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
|                      | microSMD005F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.50<br>(0.019) | 0.85<br>(0.034) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD010F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.50<br>(0.019) | 0.85<br>(0.034) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD035F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD050F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD075F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD110F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.28<br>(0.011) | 0.48<br>(0.019) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD150F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.51<br>(0.020) | 1.22<br>(0.048) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD175F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.40<br>(0.016) | 0.76<br>(0.030) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |
|                      | microSMD200F      | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.79<br>(0.031) | 1.17<br>(0.046) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —   | —   | —   | —   | —   | —   | —   | S2     |

| Part Number          | A               |                 | B                |                 | C               |                 | D               |                 | E               |     | F   |     | G   |     | H   |     | Figure |
|----------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|-----|-----|-----|-----|-----|-----|--------|
|                      | Min             | Max             | Min              | Max             | Min             | Max             | Min             | Max             | Min             | Max | Min | Max | Min | Max | Min | Max |        |
| miniSMDC Series      |                 |                 |                  |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |     |        |
| Size 4532mm/1812mils |                 |                 |                  |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |     |        |
| miniSMDC010F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC014F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC020F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC030F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC050F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC075F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC075F/24      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.81<br>(0.032)  | 1.46<br>(0.057) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| NEW miniSMDC075F/33  | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.94<br>(0.037)  | 1.46<br>(0.057) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC100F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC110F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC110F/16      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC110F/24      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.81<br>(0.032)  | 1.46<br>(0.057) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC125F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC125F/16      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC150F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC150F/12      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC150F/16      | 4.37<br>(0.172) | 4.83<br>(0.190) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC150F/24      | 4.37<br>(0.172) | 4.83<br>(0.190) | 1.00<br>(0.040)  | 1.94<br>(0.077) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC160F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC200F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.51<br>(0.020)  | 1.22<br>(0.048) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| NEW miniSMDC200F/16  | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.51<br>(0.020)  | 1.22<br>(0.048) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC260F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.48<br>(0.019)  | 0.78<br>(0.031) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC260F/12      | 4.37<br>(0.172) | 4.83<br>(0.190) | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC260F/13.2    | 4.37<br>(0.172) | 4.83<br>(0.190) | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC260F/16      | 4.37<br>(0.172) | 4.83<br>(0.190) | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |
| miniSMDC300F         | 4.37<br>(0.172) | 4.73<br>(0.186) | 0.45<br>(0.018)  | 0.76<br>(0.030) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —   | —   | —   | —   | —   | —   | —   | S2     |

Table S4 Dimensions for PolySwitch Surface-Mount Devices in Millimeters (Inches)

Cont'd

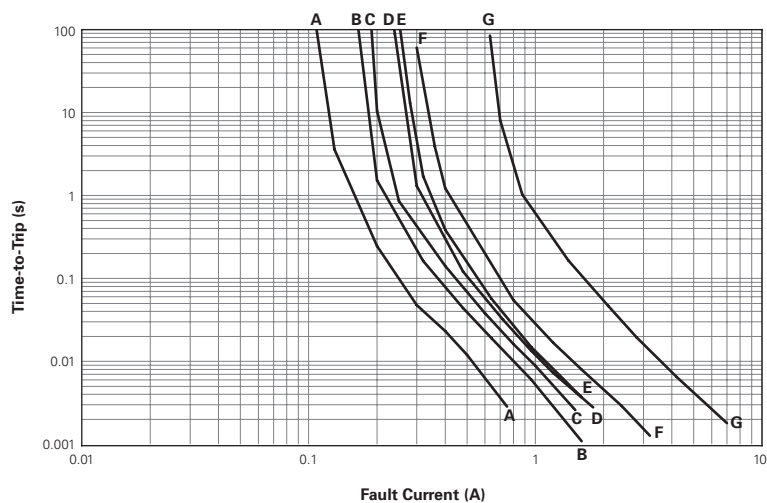
| Part Number          | A               |                 | B               |                 | C               |                 | D               |                 | E               |                 | F               |                 | G               |                 | H               |     | Figure |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|--------|
|                      | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max             | Min             | Max |        |
| midSMD Series        |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| Size 5050mm/2018mils |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| SMD030F-2018         | 4.72<br>(0.186) | 5.44<br>(0.214) | —               | 1.78<br>(0.070) | 4.22<br>(0.166) | 4.93<br>(0.194) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.30<br>(0.012) | 0.46<br>(0.018) | —               | —               | —               | —   | S3     |
| decaSMDC050F/60      | 4.70<br>(0.185) | 5.31<br>(0.209) | 0.63<br>(0.025) | 0.89<br>(0.035) | 4.19<br>(0.165) | 4.81<br>(0.189) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.25<br>(0.010) | —               | —               | —               | —               | —               | —               | —   | S2     |
| SMD100F-2018         | 4.72<br>(0.186) | 5.44<br>(0.214) | —               | 1.52<br>(0.060) | 4.22<br>(0.166) | 4.93<br>(0.194) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.30<br>(0.012) | 0.46<br>(0.018) | —               | —               | —               | —   | S3     |
| SMD150F-2018         | 4.72<br>(0.186) | 5.44<br>(0.214) | —               | 1.52<br>(0.060) | 4.22<br>(0.166) | 4.93<br>(0.194) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.30<br>(0.012) | 0.46<br>(0.018) | —               | —               | —               | —   | S3     |
| SMD200F-2018         | 4.72<br>(0.186) | 5.44<br>(0.214) | —               | 1.52<br>(0.060) | 4.22<br>(0.166) | 4.93<br>(0.194) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.25<br>(0.010) | 0.36<br>(0.014) | 0.30<br>(0.012) | 0.46<br>(0.018) | —               | —               | —               | —   | S3     |
| SMD Series           |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| Size 7555mm/2920mils |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| SMD030F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.18<br>(0.125) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD050F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.18<br>(0.125) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD075F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.18<br>(0.125) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD075F/60           | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.18<br>(0.125) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD100F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD100F/33           | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMDH120              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD125F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| NEW SMD150F/33-2920  | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| NEW SMD200F/24-2920  | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| NEW SMD250F/15-2920  | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD260F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD300F              | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD300F/15           | 6.73<br>(0.265) | 7.98<br>(0.314) | —               | 3.00<br>(0.118) | 4.80<br>(0.19)  | 5.44<br>(0.214) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 2.16<br>(0.085) | 2.41<br>(0.095) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD2 Devices         |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| Size 8763mm/3425mils |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |        |
| SMD150F              | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD150F/33           | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMDH160              | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD185F              | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD200F              | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |
| SMD250F              | 8.00<br>(0.315) | 9.40<br>(0.370) | —               | 3.00<br>(0.118) | 6.00<br>(0.236) | 6.71<br>(0.264) | 0.56<br>(0.022) | 0.71<br>(0.028) | 0.56<br>(0.022) | 0.71<br>(0.028) | 3.68<br>(0.145) | 3.94<br>(0.155) | 0.66<br>(0.026) | 1.37<br>(0.054) | 0.43<br>(0.017) | —   | S4     |

## Figures S5-S12 Typical Time-to-Trip Curves at 20°C for Surface-Mount Devices

### femtoSMDCxxxF

- A = femtoSMDC005F
- B = femtoSMDC008F
- C = femtoSMDC010F
- D = femtoSMDC012F
- E = femtoSMDC016F
- F = femtoSMDC020F
- G = femtoSMDC035F

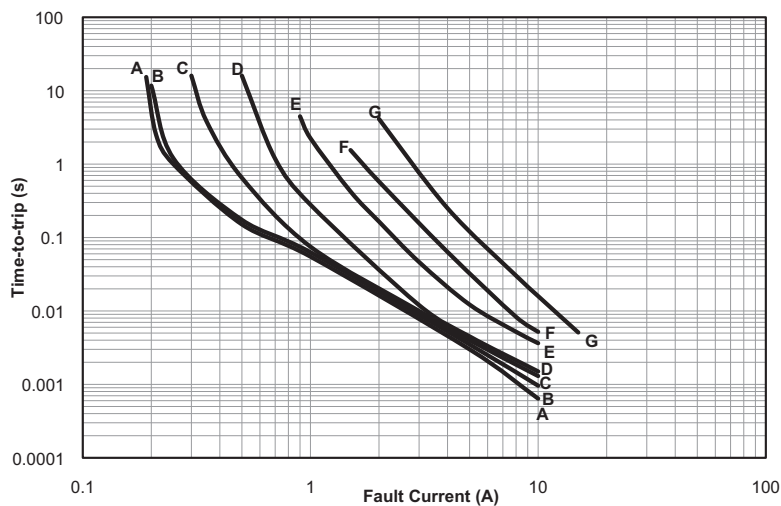
Figure S5



### picoSMDCxxxS

- A = picoSMDC010S
- B = picoSMDC012S
- C = picoSMDC020S
- D = picoSMDC035S
- E = picoSMDC050S
- F = picoSMDC075S
- G = picoSMDC110S

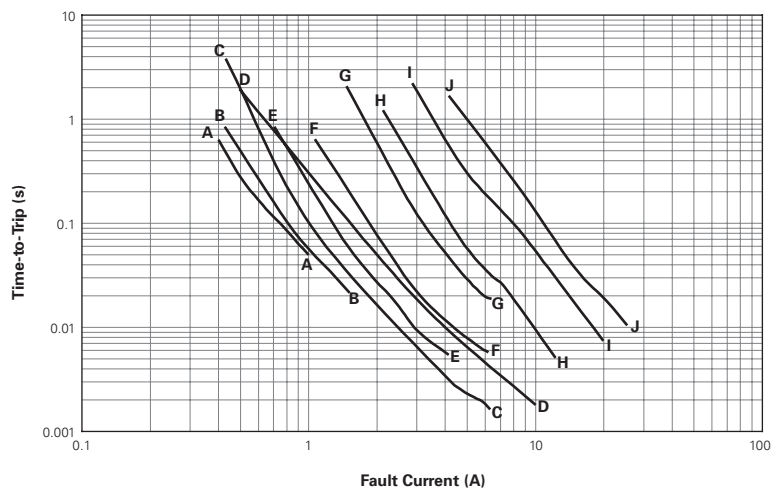
Figure S6



### nanoSMDCxxxF

- A = nanoSMDC012F
- B = nanoSMDC016F
- C = nanoSMDC020F
- D = nanoSMDC025F
- E = nanoSMDC035F
- F = nanoSMDC050F/13.2
- G = nanoSMDC075F
- H = nanoSMDC110F
- I = nanoSMDC150F
- J = nanoSMDC200F

Figure S7



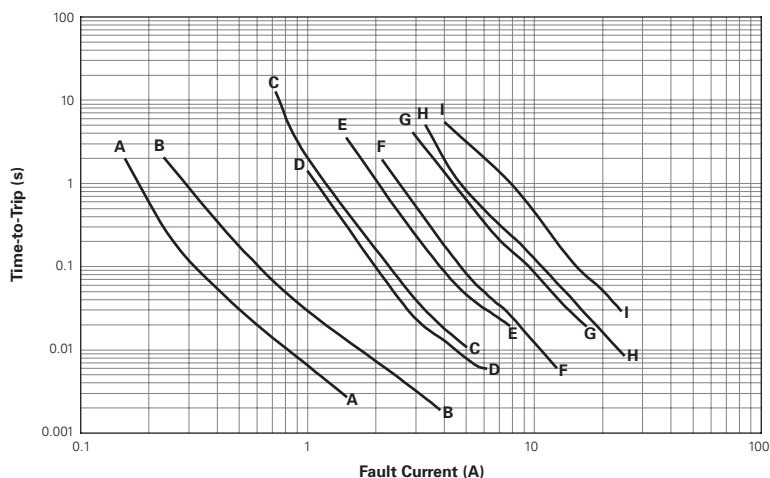
**Figures S5-S12 Typical Time-to-Trip Curves at 20°C for PolySwitch Surface-Mount Devices**

Cont'd

**microSMDxxxF**

- A = microSMD005F
- B = microSMD010F
- C = microSMD035F
- D = microSMD050F
- E = microSMD075F
- F = microSMD110F
- G = microSMD150F
- H = microSMD175F
- I = microSMD200F

**Figure S8**



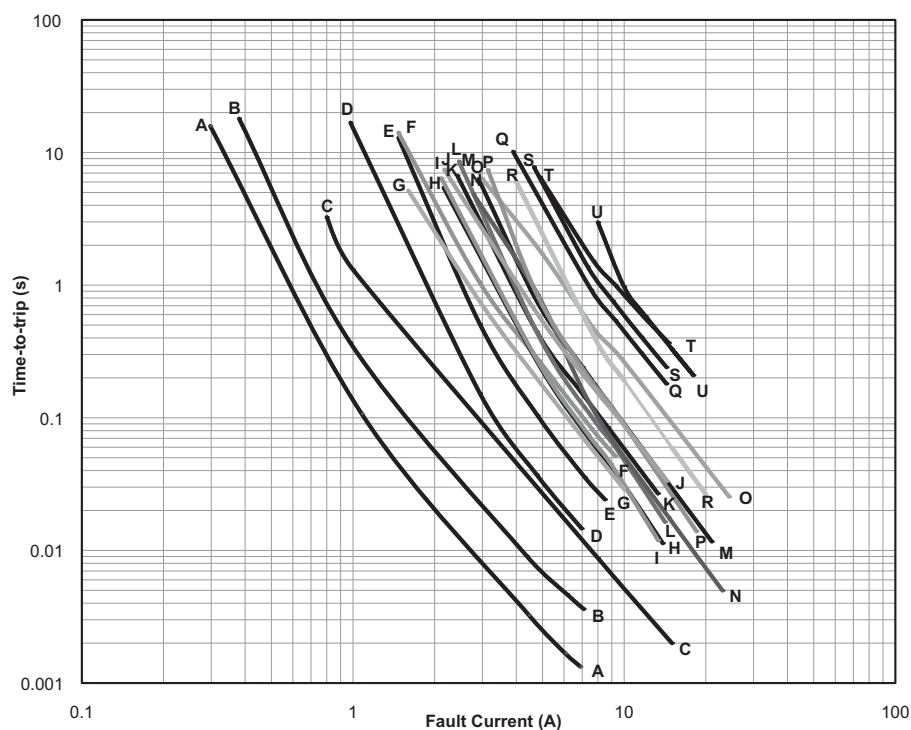
**miniSMDCxxxF**

- A = miniSMDC010F, miniSMDC014F
- B = miniSMDC020F
- C = miniSMDC030F
- D = miniSMDC050F
- E = miniSMDC075F
- F = miniSMDC075F/24

- G = miniSMDC075F/33
- H = miniSMDC100F, miniSMDC110F
- I = miniSMDC110F/16
- J = miniSMDC110F/24
- K = miniSMDC125F
- L = miniSMDC125F/16
- M = miniSMDC150F, miniSMDC150F/12
- N = miniSMDC150F/16

- O = miniSMDC150F/24
- P = miniSMDC160F
- Q = miniSMDC200F
- R = miniSMDC200F/16
- S = miniSMDC260F
- T = miniSMDC260F/12, miniSMDC260F/13.2, miniSMDC260F/16
- U = miniSMDC300F

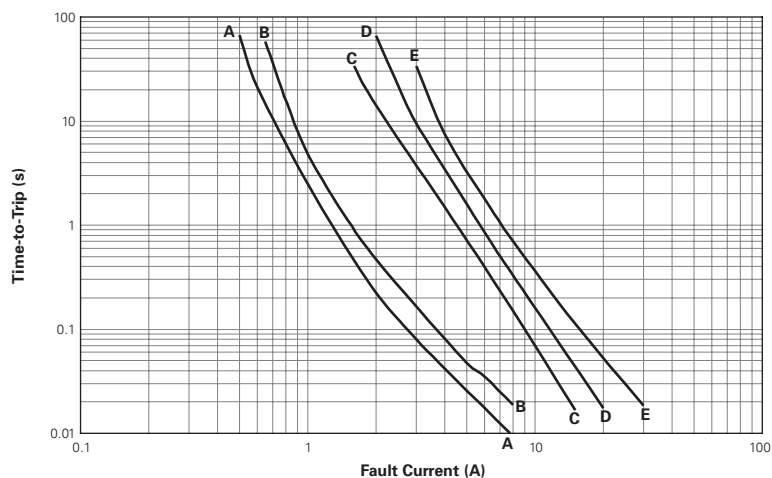
**Figure S9**



**midSMD**

- A = SMD030F-2018
- B = decaSMD050F/60
- C = SMD100F-2018
- D = SMD150F-2018
- E = SMD200F-2018

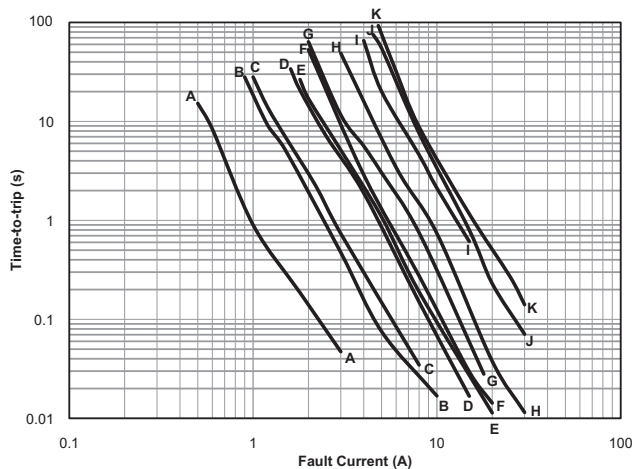
**Figure S10**



**SMDxxxF**

- A = SMD030F
- B = SMD050F
- C = SMD075F, SMD075F/60
- D = SMD100F, SMD100F/33
- E = SMDH120
- F = SMD150F/33-2920
- G = SMD125F
- H = SMD200F/24-2920
- I = SMD250F/15-2920
- J = SMD260F
- K = SMD300F, SMD300F/15

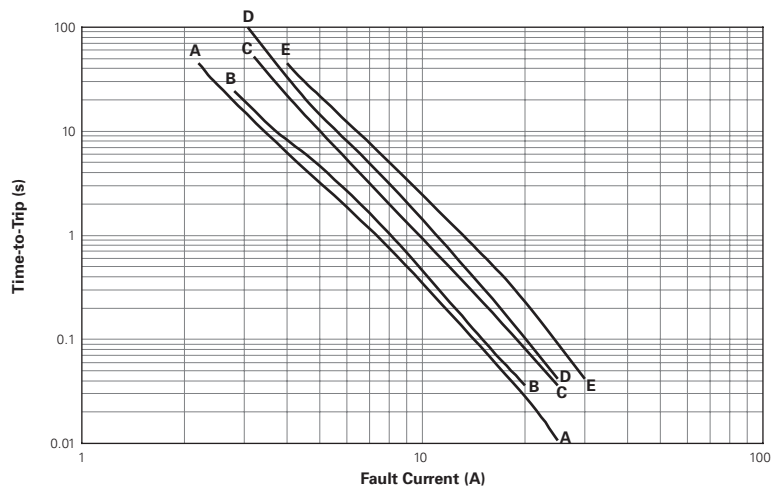
**Figure S11**



**SMD2xxxF**

- A = SMD150F, SMD150F/33
- B = SMDH160
- C = SMD185F
- D = SMD200F
- E = SMD250F

**Figure S12**



**Table S5 Physical Characteristics and Environmental Specifications for PolySwitch Surface-Mount Devices** Operating Temperature Range -40°C to 85°C, -40°C to 125°C for SMDH120 and SMDH160

**Physical Characteristics**

|                                |                                                                                                                                   |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Terminal Pad Material          | 100% Matte Tin with Nickel Underplate                                                                                             |
| Soldering Characteristics      | ANSI/J-STD-002 Category 3 for femtoSMD, picoSMD, nanoSMD, microSMD and miniSMD Series<br>ANSI/J-STD-002 Category 1 for SMD Series |
| SolderHeat Withstand           | per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A                                                                                |
| Flammability Resistance        | per IEC 695-2-2 Needle Flame Test for 20 seconds                                                                                  |
| Recommended Storage Conditions | 40°C max, 70% R.H. max; Devices May Not Meet Specified Ratings if Storage Conditions Are Exceeded                                 |

**Environmental Specifications**

| Test               | Test Method              | Conditions              | Resistance Change |
|--------------------|--------------------------|-------------------------|-------------------|
| Storage Life       | PS300, Section 5.3.2     | 60°C, 1000 hrs          | ±3% typ           |
|                    |                          | 85°C, 1000 hrs          | ±5% typ           |
| Humidity Aging     | PS300, Section 5.3.1     | 85°C, 85% RH, 100 hrs   | ±1.2% typ         |
| Thermal Shock      | MIL-STD-202, Method 107G | 85°C, -40°C (20 Times)  | -33% typ          |
|                    |                          | 125°C, -55°C (10 Times) | -33% typ          |
| Vibration          | MIL-STD-883C             | per MIL-STD-883C        | No Change         |
| Solvent Resistance | PS300, Section 5.2.2     | Freon                   | No Change         |
|                    |                          | Trichloroethane         | No Change         |
|                    |                          | Hydrocarbons            | No Change         |

**Table S6 Packaging and Marking Information for PolySwitch Surface-Mount Devices**

| Part Number                              | Tape and Reel Quantity | Standard Package | Part Marking | Recommended Pad Layout Figures [mm (in)] |                   |                   | Agency Recognition |
|------------------------------------------|------------------------|------------------|--------------|------------------------------------------|-------------------|-------------------|--------------------|
|                                          |                        |                  |              | Dimension A (Nom)                        | Dimension B (Nom) | Dimension C (Nom) |                    |
| femtoSMDC Series<br>Size 1608mm/0603mils |                        |                  |              |                                          |                   |                   |                    |
| femtoSMDC005F                            | 4,000                  | 20,000           | A            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA            |
| femtoSMDC008F                            | 4,000                  | 20,000           | T            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA            |
| femtoSMDC010F                            | 4,000                  | 20,000           | B            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA, TÜV       |
| femtoSMDC012F                            | 5,000                  | 25,000           | C            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA            |
| femtoSMDC016F                            | 5,000                  | 25,000           | E            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA            |
| femtoSMDC020F                            | 5,000                  | 25,000           | F            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA, TÜV       |
| femtoSMDC035F                            | 5,000                  | 25,000           | K            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | Pending            |
| picoSMDC Series<br>Size 2012mm/0805mils  |                        |                  |              |                                          |                   |                   |                    |
| picoSMDC010S                             | 3,000                  | 15,000           | C            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| picoSMDC012S                             | 4,000                  | 20,000           | F            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| picoSMDC020S                             | 4,000                  | 20,000           | H            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| picoSMDC035S                             | 4,000                  | 20,000           | I            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| picoSMDC050S                             | 3,000                  | 15,000           | K            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| NEW picoSMDC075S                         | 3,000                  | 15,000           | M            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| NEW picoSMDC110S                         | 3,000                  | 15,000           | S            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, TÜV            |
| nanoSMDC Series<br>Size 3216mm/1206mils  |                        |                  |              |                                          |                   |                   |                    |
| nanoSMDC012F                             | 3,000                  | 15,000           | P            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC016F                             | 3,000                  | 15,000           | N            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC020F                             | 3,000                  | 15,000           | 02           | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC025F                             | 3,000                  | 15,000           | C            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC035F                             | 3,000                  | 15,000           | 03           | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC050F/13.2                        | 3,000                  | 15,000           | M            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC075F                             | 3,000                  | 15,000           | L            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC110F                             | 3,000                  | 15,000           | K            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC150F                             | 3,000                  | 15,000           | 15           | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| nanoSMDC200F                             | 3,000                  | 15,000           | T            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |

**Table S6 Packaging and Marking Information for PolySwitch Surface-Mount Devices**

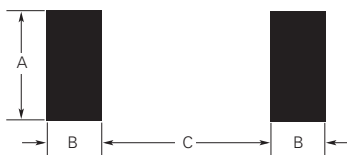
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|                                         |                        |                  |              | Recommended Pad Layout Figures [mm (in)] |                   |                   |                    |
|-----------------------------------------|------------------------|------------------|--------------|------------------------------------------|-------------------|-------------------|--------------------|
| Part Number                             | Tape and Reel Quantity | Standard Package | Part Marking | Dimension A (Nom)                        | Dimension B (Nom) | Dimension C (Nom) | Agency Recognition |
| microSMD Series<br>Size 3225mm/1210mils |                        |                  |              |                                          |                   |                   |                    |
| microSMD005F                            | 4,000                  | 20,000           | 05           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD010F                            | 4,000                  | 20,000           | 10           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD035F                            | 4,000                  | 20,000           | 3            | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD050F                            | 4,000                  | 20,000           | 50           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD075F                            | 4,000                  | 20,000           | 75           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD110F                            | 4,000                  | 20,000           | 11           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD150F                            | 4,000                  | 20,000           | 15           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD175F                            | 4,000                  | 20,000           | 17           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| microSMD200F                            | 3,000                  | 15,000           | 20           | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, CSA, TÜV       |
| miniSMDC Series<br>Size 4532mm/1812mils |                        |                  |              |                                          |                   |                   |                    |
| miniSMDC010F                            | 2,000                  | 10,000           | 10           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC014F                            | 2,000                  | 10,000           | 14           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC020F                            | 2,000                  | 10,000           | 2            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC030F                            | 2,000                  | 10,000           | 3            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC050F                            | 2,000                  | 10,000           | 5            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC075F                            | 2,000                  | 10,000           | 7            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC075F/24                         | 1,500                  | 7,500            | 075F 24V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| NEW miniSMDC075F/33                     | 1,500                  | 7,500            | 075F 33V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC100F                            | 2,000                  | 10,000           | 1            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC110F                            | 2,000                  | 10,000           | 1            | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC110F/16                         | 2,000                  | 10,000           | 110F 16V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC110F/24                         | 1,500                  | 7,500            | 110F 24V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC125F                            | 2,000                  | 10,000           | 12           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC125F/16                         | 2,000                  | 10,000           | 125F 16V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC150F                            | 2,000                  | 10,000           | 15           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC150F/12                         | 2,000                  | 10,000           | 150F 12V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC150F/16                         | 2,000                  | 10,000           | 150 16V      | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC150F/24                         | 1,000                  | 5,000            | 150F 24V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC160F                            | 2,000                  | 10,000           | 16           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC200F                            | 2,000                  | 10,000           | 20           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| NEW miniSMDC200F/16                     | 2,000                  | 10,000           | 200F 16V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL                 |
| miniSMDC260F                            | 2,000                  | 10,000           | 260F         | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC260F/12                         | 1,500                  | 7,500            | 260F 12V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC260F/13.2                       | 1,500                  | 7,500            | 260F 13V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC260F/16                         | 1,500                  | 7,500            | 260F 16V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| miniSMDC300F                            | 2,000                  | 10,000           | 30           | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, CSA, TÜV       |
| midSMD Series<br>Size 5050mm/2018mils   |                        |                  |              |                                          |                   |                   |                    |
| SMD030F-2018                            | 4,000                  | 20,000           | A03F         | 4.60 (0.18)                              | 1.50 (0.059)      | 3.40 (0.134)      | UL, CSA, TÜV       |
| decaSMDC050F/60                         | 1,000                  | 5,000            | 050F 60V     | 4.32 (0.17)                              | 1.40 (0.055)      | 3.61 (0.142)      | UL, CSA, TÜV       |
| SMD100F-2018                            | 4,000                  | 20,000           | A10F         | 4.60 (0.18)                              | 1.50 (0.059)      | 3.40 (0.134)      | UL, CSA, TÜV       |
| SMD150F-2018                            | 4,000                  | 20,000           | A15F         | 4.60 (0.18)                              | 1.50 (0.059)      | 3.40 (0.134)      | UL, CSA, TÜV       |
| SMD200F-2018                            | 4,000                  | 20,000           | A20F         | 4.60 (0.18)                              | 1.50 (0.059)      | 3.40 (0.134)      | UL, CSA, TÜV       |

**Table S6 Packaging and Marking Information for PolySwitch Surface-Mount Devices**

Cont'd

| Part Number          | Tape and Reel Quantity | Standard Package | Part Marking | Recommended Pad Layout Figures [mm (in)] |                   |                   | Agency Recognition |
|----------------------|------------------------|------------------|--------------|------------------------------------------|-------------------|-------------------|--------------------|
|                      |                        |                  |              | Dimension A (Nom)                        | Dimension B (Nom) | Dimension C (Nom) |                    |
| SMD Series           |                        |                  |              |                                          |                   |                   |                    |
| Size 7555mm/2920mils |                        |                  |              |                                          |                   |                   |                    |
| SMD030F              | 2,000                  | 10,000           | 030F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD050F              | 2,000                  | 10,000           | 050F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD075F              | 2,000                  | 10,000           | 075F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD075F/60           | 2,000                  | 10,000           | 756F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD100F              | 2,000                  | 10,000           | 100F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD100F/33           | 2,000                  | 10,000           | 103F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMDH120              | 2,000                  | 10,000           | H12          | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD125F              | 2,000                  | 10,000           | 125F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| NEW SMD150F/33-2920  | 2,000                  | 10,000           | S15F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| NEW SMD200F/24-2920  | 2,000                  | 10,000           | S20F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| NEW SMD250F/15-2920  | 2,000                  | 10,000           | S25F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD260F              | 2,000                  | 10,000           | 260F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD300F              | 2,000                  | 10,000           | 300F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD300F/15           | 2,000                  | 10,000           | 315F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD2 Devices         |                        |                  |              |                                          |                   |                   |                    |
| Size 8763mm/3425mils |                        |                  |              |                                          |                   |                   |                    |
| SMD150F              | 1,500                  | 7,500            | 150F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |
| SMD150F/33           | 1,500                  | 7,500            | 153F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |
| SMDH160              | 1,500                  | 7,500            | 160F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |
| SMD185F              | 1,500                  | 7,500            | 185F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |
| SMD200F              | 1,500                  | 7,500            | 200F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |
| SMD250F              | 1,500                  | 7,500            | 250F         | 4.60 (0.18)                              | 2.30 (0.09)       | 6.10 (0.240)      | UL, CSA, TÜV       |

**Figure S13 Recommended Pad Layout for PolySwitch Surface-Mount Devices**

**Agency Recognition for PolySwitch Surface-Mount Devices**

|     |                                                                      |
|-----|----------------------------------------------------------------------|
| UL  | File # E74889 for all Surface-mount Devices                          |
| CSA | File # CA78165 for all Surface-mount Devices                         |
| TÜV | Certificate Number Available Upon Request (Certified to IEC 60730-1) |

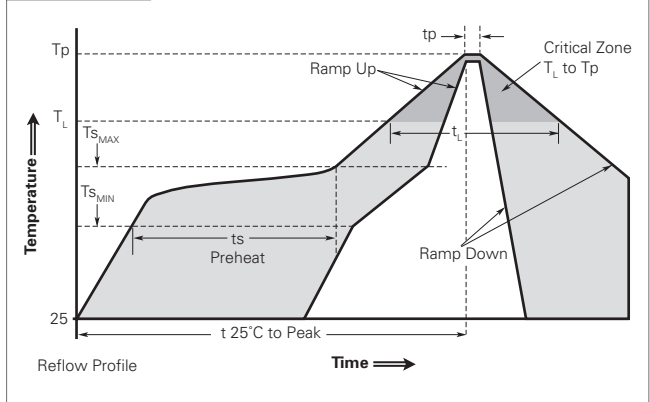
## Solder Reflow and Rework Recommendation for PolySwitch Surface-Mount Devices

### Classification Reflow Profiles

| Profile Feature                                                            | Pb-Free Assembly |
|----------------------------------------------------------------------------|------------------|
| <b>Average Ramp-up Rate (<math>T_{S_{MAX}}</math> to <math>T_p</math>)</b> | 3°C/s max        |
| <b>Preheat</b>                                                             |                  |
| • Temperature min ( $T_{S_{MIN}}$ )                                        | 150°C            |
| • Temperature max ( $T_{S_{MAX}}$ )                                        | 200°C            |
| • Time ( $t_{S_{MIN}}$ to $t_{S_{MAX}}$ )                                  | 60-120s          |
| <b>Time Maintained Above:</b>                                              |                  |
| • Temperature ( $T_L$ )                                                    | 217°C            |
| • Time ( $t_L$ )                                                           | 60-150s          |
| <b>Peak/Classification Temperature (<math>T_p</math>)</b>                  | 260°C            |
| <b>Time within 5°C of Actual Peak Temperature</b>                          |                  |
| Time ( $t_p$ )                                                             | 30s max          |
| <b>Ramp-down Rate</b>                                                      | 3°C/s max        |
| <b>Time 25°C to Peak Temperature</b>                                       | 8 mins max       |

**Note:** All temperatures refer to topside of the package measured on the package body surface.

Figure S14



### Solder Reflow

- Recommended reflow methods:
  - IR
  - Hot air
  - Nitrogen
- Recommended maximum paste thickness: 0.25mm (0.010in)
- Devices can be cleaned using standard methods and aqueous solvents.
- Experience has shown the optimum conditions for forming acceptable solder fillets occur when a reasonable amount of solder paste is placed underneath each device's termination. As such, we request that customers comply with our recommended solder pad layouts.
- Customer should validate that the solder paste amount and reflow recommendations meet its application.
- We request that customer board layouts refrain from placing raised features (e.g., vias, nomenclature, traces, etc.) underneath PolySwitch devices. It is possible that raised features could negatively impact solderability performance of our devices.

### Rework

- femtoSMD, picoSMD, nanoSMD, microSMD and miniSMD series: standard industry practices. (Please also avoid direct contact to the device.)
- SMD series: Rework should be confined to removal of the installed product and replacement with a fresh device.

**Table S7 Tape and Reel Specifications for Surface-Mount Devices (Millimeters)**

| Description        | femtoSMD<br>EIA 481-1 | picoSMD<br>EIA 481-1 | nanoSMD<br>EIA 481-1 | microSMD<br>EIA 481-1 | miniSMD<br>and<br>decaSMD C050F/60<br>EIA 481-1 | midSMD<br>except<br>decaSMD C050F/60<br>EIA 481-2 | SMD<br>EIA 481-2 | SMD2<br>EIA 481-2 |
|--------------------|-----------------------|----------------------|----------------------|-----------------------|-------------------------------------------------|---------------------------------------------------|------------------|-------------------|
| W                  | 8.0 ± 0.30            | 8.0 ± 0.30           | 8.0 ± 0.30           | 8.0 ± 0.30            | 12.0 ± 0.30                                     | 16.0 ± 0.30                                       | 16.0 ± 0.30      | 16.0 ± 0.30       |
| P <sub>0</sub>     | 4.0 ± 0.10            | 4.0 ± 0.10           | 4.0 ± 0.10           | 4.0 ± 0.10            | 4.0 ± 0.10                                      | 4.0 ± 0.10                                        | 4.0 ± 0.10       | 4.0 ± 0.10        |
| P <sub>1</sub>     | 4.0 ± 0.10            | 4.0 ± 0.10           | 4.0 ± 0.10           | 4.0 ± 0.10            | 8.0 ± 0.10                                      | 8.0 ± 0.10                                        | 8.0 ± 0.10       | 12.0 ± 0.10       |
| P <sub>2</sub>     | 2.0 ± 0.05            | 2.0 ± 0.10           | 2.0 ± 0.05           | 2.0 ± 0.05            | 2.0 ± 0.05                                      | 2.0 ± 0.10                                        | 2.0 ± 0.10       | 2.0 ± 0.10        |
| A <sub>0</sub>     | 0.95 ± 0.05           | 1.70 ± 0.10          | 1.95 ± 0.10          | 2.9 ± 0.10            | Table S8                                        | 5.11 ± 0.15                                       | 5.6 ± 0.23       | 6.9 ± 0.23        |
| B <sub>0</sub>     | 1.85 ± 0.05           | 2.45 ± 0.10          | Table S8             | Table S8              | Table S8                                        | 5.6 ± 0.23                                        | 8.1 ± 0.15       | 9.6 ± 0.15        |
| B <sub>1</sub> max | 4.35                  | 4.35                 | 4.35                 | 4.35                  | 6.15                                            | 6.4                                               | 12.1             | 12.1              |
| D <sub>0</sub>     | 1.55 ± 0.05           | 1.55 ± 0.05          | 1.55 ± 0.05          | 1.55 ± 0.05           | 1.55 ± 0.05                                     | 1.5 + 0.10/-0.00                                  | 1.5 + 0.10/-0.00 | 1.5 + 0.10/-0.00  |
| F                  | 3.50 ± 0.05           | 3.50 ± 0.05          | 3.50 ± 0.05          | 3.50 ± 0.05           | 5.50 ± 0.10                                     | 7.50 ± 0.10                                       | 7.50 ± 0.10      | 7.50 ± 0.10       |
| E <sub>1</sub>     | 1.75 ± 0.10           | 1.75 ± 0.10          | 1.75 ± 0.10          | 1.75 ± 0.10           | 1.75 ± 0.10                                     | 1.75 ± 0.10                                       | 1.75 ± 0.10      | 1.75 ± 0.10       |
| E <sub>2</sub> min | 6.25                  | 6.25                 | 6.25                 | 6.25                  | 10.25                                           | 14.25                                             | 14.25            | 14.25             |
| T max              | 0.3                   | 0.3                  | 0.3                  | 0.3                   | 0.35                                            | 0.4                                               | 0.4              | 0.4               |
| T <sub>1</sub> max | 0.1                   | 0.1                  | 0.1                  | 0.1                   | 0.1                                             | 0.1                                               | 0.1              | 0.1               |
| K <sub>0</sub>     | Table S8              | Table S8             | Table S8             | Table S8              | Table S8                                        | 1.8 ± 0.15                                        | 3.2 ± 0.15       | 3.4 ± 0.15        |

**Table S8 Tape and Reel Specifications for PolySwitch Surface-Mount Devices (Millimeters)**

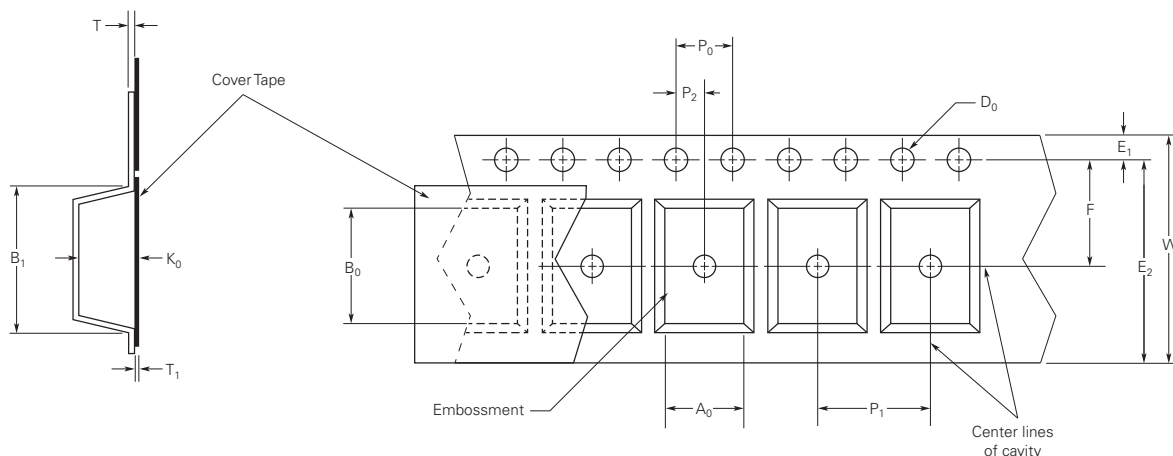
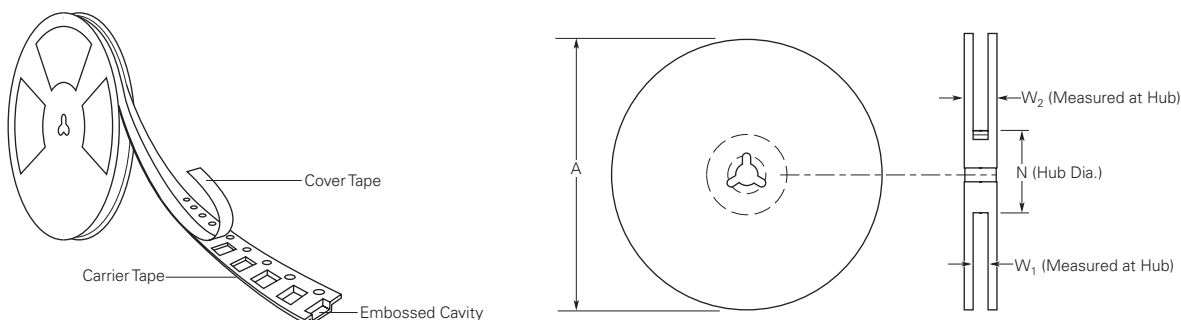
|                | femtoSMDC005F<br>femtoSMDC008F<br>femtoSMDC010F | femtoSMDC012F<br>femtoSMDC016F<br>femtoSMDC020F<br>femtoSMDC035F | picoSMDC012S<br>picoSMDC020S<br>picoSMDC035S | picoSMDC010S<br>picoSMDC050S<br>picoSMDC075S | picoSMDC110S | All nanoSMDC<br>Series Except<br>nanoSMDC012F<br>nanoSMDC016F<br>nanoSMDC200F |
|----------------|-------------------------------------------------|------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|--------------|-------------------------------------------------------------------------------|
| A <sub>0</sub> | 0.95 ± 0.05                                     | 0.95 ± 0.05                                                      | 1.70 ± 0.1                                   | 1.70 ± 0.1                                   | 1.70 ± 0.1   | 1.95 ± 0.1                                                                    |
| B <sub>0</sub> | 1.85 ± 0.05                                     | 1.85 ± 0.05                                                      | 2.45 ± 0.1                                   | 2.45 ± 0.1                                   | 2.45 ± 0.1   | 3.50 +0.1/-0.08                                                               |
| K <sub>0</sub> | 0.90 ± 0.1                                      | 0.55 ± 0.05                                                      | 0.86 ± 0.1                                   | 1.12 ± 0.1                                   | 1.35 ± 0.1   | 0.89 ± 0.1                                                                    |

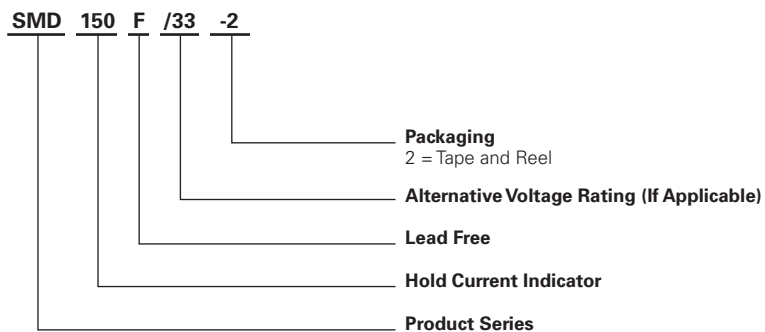
|                | nanoSMDC012F<br>nanoSMDC016F<br>nanoSMDC200F | All microSMD<br>series except<br>microSMD200F | microSMD200F | miniSMDC010F<br>miniSMDC014F~075F<br>miniSMDC100F~110F/16<br>miniSMDC125F~150F/16<br>miniSMDC160F~260F<br>miniSMDC300F | miniSMDC075F/24<br>miniSMDC075F/33<br>miniSMDC110F/24<br>miniSMDC260F/12<br>miniSMDC260F/13.2<br>miniSMDC260F/16 | miniSMDC150F/24 | decaSMDC050F/60 |
|----------------|----------------------------------------------|-----------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| A <sub>0</sub> | 1.95 ± 0.1                                   | 2.9 ± 0.1                                     | 2.9 ± 0.1    | 3.5 ± 0.1                                                                                                              | 3.7 ± 0.1                                                                                                        | 3.7 ± 0.1       | 5.0 ± 0.1       |
| B <sub>0</sub> | 3.5 ± 0.1                                    | 3.5 ± 0.1                                     | 3.55 ± 0.1   | 4.95 ± 0.1                                                                                                             | 4.9 ± 0.1                                                                                                        | 4.9 ± 0.1       | 5.4 ± 0.1       |
| K <sub>0</sub> | 1.27 ± 0.1                                   | 0.9 ± 0.1                                     | 1.27 ± 0.1   | 0.9 ± 0.1                                                                                                              | 1.4 ± 0.1                                                                                                        | 1.78 ± 0.1      | 1.7 ± 0.1       |

**Table S9 Reel Dimensions for PolySwitch Surface-Mount Devices (Millimeters)**

|                    | femto/pico/nano/microSMD | miniSMDC         | midSMD           | SMD              | SMD2             |
|--------------------|--------------------------|------------------|------------------|------------------|------------------|
| A max              | 185                      | 185              | 330              | 330              | 330              |
| N min              | 50                       | 50               | 50               | 50               | 50               |
| W <sub>1</sub>     | 8.4 + 1.5/-0.00          | 12.4 + 2.0/-0.00 | 16.4 + 2.0/-0.00 | 16.4 + 2.0/-0.00 | 16.4 + 2.0/-0.00 |
| W <sub>2</sub> max | 14.4                     | 18.4             | 22.4             | 22.4             | 22.4             |

**Figure S15 EIA Referenced Taped Component Dimensions for PolySwitch Surface-Mount Devices**

**Figure S16 EIA Referenced Reel Dimensions for PolySwitch Surface-Mount Devices**


## Part Numbering System for PolySwitch Surface-Mount Devices



### Warning:

- Users should independently evaluate the suitability of and test each product selected for their own application.
- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- These devices are intended for protection against damage caused by occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- PPTC devices are not recommended for installation in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
- Operation in circuits with a large inductance can generate a circuit voltage ( $L di/dt$ ) above the rated voltage of the device.



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**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331