

# 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, Littelfuse PolySwitch team 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 $\geq$ 900ppm, Cl $\geq$ 900ppm, Br+Cl $\geq$ 1500ppm)
- Broadest range of resettable devices available in the industry
- Current ratings from 0.05 to 3.1A
- 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
- Portable electronics
- Multimedia
- Game machines
- Telephony and broadband
- Mobile phones
- Automotive
- Industrial controls
- Battery

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## Surface-Mount Devices

### Application Selection Table

- 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 Overvoltage | Small Size   | Low Resistance    | Fast Time-to-trip (Temperature Protection) |
| AC Adapter Input Power      | Use w/ Zener & Triac |                         | SMD250F  | SMD250F           | SMD200F                                    |
| Battery Pack Protection     |                      |                         | nanoSMDC150F   | miniSMDC260F      | miniSMDE200F/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. Littelfuse welcomes our customers' input for additional application ideas for PolySwitch resettable devices.

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S1 — Product Series: Size, Current Rating, Voltage Rating/Maximum Resistance

|                         | femtoSMD                  | picoSMD                   | nanoSMD                    | microSMD                   | miniSMD                     | midSMD                   |
|-------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|--------------------------|
| <b>Size mm</b>          | 1608                      | 2012                      | 3216                       | 3225                       | 4532                        | 5050                     |
| <b>(mils)</b>           | (0603)                    | (0805)                    | (1206)                     | (1210)                     | (1812)                      | (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 | 60V <sub>DC</sub> /15.00Ω  | 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> /2.10Ω   | —                          | —                           | —                        |
| 0.300                   | —                         | —                         | —                          | —                          | 30V <sub>DC</sub> /1.75Ω    | 60V <sub>DC</sub> /2.30Ω |
| 0.350                   | 6V <sub>DC</sub> /1.00Ω   | 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    | —                        |
| 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  | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.29Ω    | —                        |
|                         | —                         | —                         | —                          | —                          | 33V <sub>DC</sub> /0.39Ω    | —                        |
| 1.000                   | —                         | —                         | —                          | —                          | —                           | 15V <sub>DC</sub> /0.40Ω |
|                         | —                         | —                         | —                          | —                          | —                           | —                        |
| 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                   | —                         | —                         | —                          | —                          | —                           | —                        |
| 1.250                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.14Ω     | —                        |
|                         | —                         | —                         | —                          | —                          | 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 |
|                         | —                         | —                         | —                          | —                          | 12V <sub>DC</sub> /0.11Ω    | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.11Ω    | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.12Ω    | —                        |
| 1.600                   | —                         | —                         | —                          | —                          | 9V <sub>DC</sub> /0.10Ω     | —                        |
| 1.750                   | —                         | —                         | —                          | 6V <sub>DC</sub> /0.08Ω    | —                           | —                        |
| 1.850                   | —                         | —                         | —                          | —                          | —                           | —                        |
| 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  |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.085Ω   | —                        |
| 2.500                   | —                         | —                         | —                          | —                          | —                           | —                        |
| 2.600                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.043Ω    | —                        |
|                         | —                         | —                         | —                          | —                          | 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    | —                        |
|                         | —                         | —                         | —                          | —                          | —                           | —                        |
| 3.100                   | —                         | —                         | —                          | —                          | —                           | —                        |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S1 — Product Series: Size, Current Rating, Voltage Rating/Maximum Resistance (Cont'd)

|                         | SMDC                      | SMD                       | SMD2                      | decaSMD                  | High Temperature SMD     |
|-------------------------|---------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| <b>Size mm</b>          | 7555                      | 7555                      | 8763                      | 5050                     | 3216, 3225 & 7555        |
| <b>(mils)</b>           | (2920)                    | (2920)                    | (3425)                    | (2018)                   | (1206), (1210) & (2920)  |
| <b>Hold Current (A)</b> |                           |                           |                           |                          |                          |
| 0.050                   | —                         | —                         | —                         | —                        | —                        |
| 0.080                   | —                         | —                         | —                         | —                        | —                        |
| 0.100                   | —                         | —                         | —                         | —                        | 30V <sub>DC</sub> /10.0Ω |
|                         | —                         | —                         | —                         | —                        | 30V <sub>DC</sub> /11.0Ω |
| 0.120                   | —                         | —                         | —                         | —                        | —                        |
| 0.140                   | —                         | —                         | —                         | —                        | —                        |
| 0.160                   | —                         | —                         | —                         | —                        | —                        |
| 0.200                   | —                         | —                         | —                         | —                        | —                        |
| 0.250                   | —                         | —                         | —                         | —                        | —                        |
| 0.300                   | —                         | 60V <sub>DC</sub> /4.80Ω  | —                         | —                        | 24V <sub>DC</sub> /1.95Ω |
| 0.350                   | —                         | —                         | —                         | —                        | —                        |
| 0.500                   | —                         | 60V <sub>DC</sub> /1.40Ω  | —                         | 60V <sub>DC</sub> /1.10Ω | 6V <sub>DC</sub> /0.90Ω  |
| 0.750                   | —                         | 30V <sub>DC</sub> /1.00Ω  | —                         | —                        | 6V <sub>DC</sub> /0.36Ω  |
|                         | —                         | 60V <sub>DC</sub> /1.00Ω  | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
| 1.000                   | —                         | 30V <sub>DC</sub> /0.48Ω  | —                         | —                        | —                        |
|                         | —                         | 33V <sub>DC</sub> /0.41Ω  | —                         | —                        | —                        |
| 1.100                   | —                         | —                         | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
| 1.200                   | —                         | 16V <sub>DC</sub> /0.34Ω  | —                         | —                        | —                        |
| 1.250                   | 33V <sub>DC</sub> /0.25Ω  | 15V <sub>DC</sub> /0.25Ω  | —                         | —                        | 24V <sub>DC</sub> /0.24Ω |
|                         | —                         | —                         | —                         | —                        | —                        |
| 1.500                   | —                         | 33V <sub>DC</sub> /0.23Ω  | 15V <sub>DC</sub> /0.25Ω  | —                        | —                        |
|                         | —                         | —                         | 33V <sub>DC</sub> /0.23Ω  | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
| 1.600                   | —                         | —                         | 16V <sub>DC</sub> /0.15Ω  | —                        | —                        |
| 1.750                   | —                         | —                         | —                         | —                        | —                        |
| 1.850                   | 33V <sub>DC</sub> /0.15Ω  | —                         | 33V <sub>DC</sub> /0.165Ω | —                        | —                        |
| 2.000                   | —                         | 24V <sub>DC</sub> /0.125Ω | 15V <sub>DC</sub> /0.125Ω | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
| 2.500                   | —                         | 15V <sub>DC</sub> /0.085Ω | 15V <sub>DC</sub> /0.85Ω  | —                        | —                        |
| 2.600                   | —                         | 6V <sub>DC</sub> /0.075Ω  | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
|                         | —                         | —                         | —                         | —                        | —                        |
| 3.000                   | 24V <sub>DC</sub> /0.072Ω | 6V <sub>DC</sub> /0.048Ω  | —                         | —                        | —                        |
|                         | —                         | 15V <sub>DC</sub> /0.05Ω  | —                         | —                        | —                        |
| 3.100                   | 18V <sub>DC</sub> /0.036Ω | —                         | —                         | —                        | —                        |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S2 — Thermal Derating [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; 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; 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 | —     |
| picoSMDC075S                                  | 1.13                        | 1.01  | 0.90 | 0.78 | 0.75 | 0.67 | 0.61 | 0.55 | 0.49 | 0.43 | 0.40 | —     |
| 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; Size 3216mm/1206mils</b>  |                             |       |      |      |      |      |      |      |      |      |      |       |
| nanoSMDC010F                                  | 0.15                        | 0.14  | 0.12 | 0.10 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | —     |
| 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; 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; 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 | —     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S2 — Thermal Derating [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; Size 4532mm/1812mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| 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 | —     |
| 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 | —     |
| 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; 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 | —     |
| decaSMDC050F/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>SMDC Series; Size 7555mm/2920mils</b>     |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMDC125F/33                                  | 2.02                        | 1.78  | 1.55 | 1.31 | 1.25 | 1.08 | 0.96 | 0.84 | 0.72 | 0.60 | 0.54 | —     |
| SMDC185F/33                                  | 2.83                        | 2.50  | 2.20 | 1.85 | 1.74 | 1.53 | 1.37 | 1.22 | 1.04 | 0.88 | 0.80 | —     |
| SMDC300F/24                                  | 4.70                        | 4.19  | 3.70 | 3.17 | 3.00 | 2.66 | 2.41 | 2.20 | 1.90 | 1.65 | 1.50 | —     |
| SMDC310F/18                                  | 4.50                        | 4.06  | 3.78 | 3.19 | 3.10 | 2.75 | 2.54 | 2.32 | 2.10 | 1.88 | 1.76 | —     |
| <b>SMD Series; 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 | —     |
| 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 | —     |
| 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 | —     |
| 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 | —     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S2 — Thermal Derating [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>SMD2 Series; 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 | —     |
| <b>High Temperature SMD Series; Size 3216mm/1206mils, 3225mm/1210mils &amp; 7555mm/2920mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| nanoSMDCH010F   | 0.18                        | 0.16  | 0.15 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.07 | 0.06 | 0.06 | 0.03  |
| nanoSMDCH030F/24  | 0.45                        | 0.40  | 0.35 | 0.31 | 0.30 | 0.25 | 0.22 | 0.20 | 0.18 | 0.15 | 0.13 | 0.05  |
| nanoSMDH075F  | 1.07                        | 0.98  | 0.90 | 0.78 | 0.75 | 0.70 | 0.66 | 0.61 | 0.56 | 0.52 | 0.50 | 0.30  |
| microSMDCH010F  | 0.18                        | 0.16  | 0.15 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | 0.02  |
| microSMDCH050F  | 0.85                        | 0.78  | 0.75 | 0.54 | 0.50 | 0.48 | 0.45 | 0.42 | 0.38 | 0.35 | 0.35 | 0.18  |
| SMDCH125F/24  | 1.80                        | 1.65  | 1.50 | 1.30 | 1.25 | 1.15 | 1.08 | 1.00 | 0.90 | 0.82 | 0.80 | 0.28  |

Figure S1 — Thermal Derating Curve

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

**B = SMDH120 / SMDH160 and High Temperature SMD**



# PolySwitch Resettable Devices

## Surface-Mount Devices

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

| Part Number                                   | $I_H$ | $I_T$ | $V_{MAX}$          | $I_{MAX}$ | $P_{D MAX}$ | Max Time-to-Trip |       | $R_{MIN}$    | $R_{1MAX}$   | Figure for Dimensions |
|---|-------|-------|--------------------|-----------|-------------|------------------|-------|--------------|--------------|-----------------------|
|   | (A)   | (A)   | (V <sub>DC</sub> ) | (A)       | (W)         | (A)              | (S)   | ( $\Omega$ ) | ( $\Omega$ ) |                       |
| <b>femtoSMDC Series; Size 1608mm/0603mils</b> |       |       |                    |           |             |                  |       |              |              |                       |
| 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  | 0.28         | 1.00         | S2                    |
| <b>picoSMDC Series; Size 2012mm/0805mils</b>  |       |       |                    |           |             |                  |       |              |              |                       |
| 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                    |
| <b>nanoSMDC Series; Size 3216mm/1206mils</b>  |       |       |                    |           |             |                  |       |              |              |                       |
| nanoSMDC010F                                  | 0.10  | 0.25  | 60                 | 10        | 0.80        | 0.50             | 1.00  | 1.60         | 15.00        | S2                    |
| 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             | 0.10  | 0.40         | 2.10         | 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                    |
| <b>microSMD Series; Size 3225mm/1210mils</b>  |       |       |                    |           |             |                  |       |              |              |                       |
| 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                    |
| <b>miniSMDC Series; Size 4532mm/1812mils</b>  |       |       |                    |           |             |                  |       |              |              |                       |
| 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                    |



# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S3 — Electrical Characteristics for 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 Dimensions |
|--|-----------------------|-----------------------|--|-------------------------|---------------------------|------------------|-------|-------------------------|--------------------------|-----------------------|
|  |                       |                       |  |                         |                           | (A)              | (S)   |                         |                          |                       |
| <b>miniSMDC Series; Size 4532mm/1812mils</b> |                       |                       |  |                         |                           |                  |       |                         |                          |                       |
| 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                    |
| 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                    |
| <b>midSMD Series; Size 5050mm/2018mils</b>   |                       |                       |  |                         |                           |                  |       |                         |                          |                       |
| 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                    |
| <b>SMDC Series; Size 7555mm/2920mils</b>     |                       |                       |  |                         |                           |                  |       |                         |                          |                       |
| SMDC125F/33                                  | 1.25                  | 2.50                  | 33                                     | 40                      | 1.50                      | 8.00             | 2.00  | 0.040                   | 0.250                    | S2                    |
| SMDC185F/33                                  | 1.85                  | 3.70                  | 33                                     | 40                      | 1.70                      | 8.00             | 2.50  | 0.050                   | 0.150                    | S2                    |
| SMDC300F/24                                  | 3.00                  | 6.00                  | 24                                     | 40                      | 1.70                      | 8.00             | 5.00  | 0.015                   | 0.072                    | S2                    |
| SMDC310F/18                                  | 3.10                  | 6.00                  | 18                                     | 50                      | 1.50                      | 8.00             | 25.00 | 0.013                   | 0.036                    | S2                    |
| <b>SMD Series; Size 7555mm/2920mils</b>      |                       |                       |  |                         |                           |                  |       |                         |                          |                       |
| 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                    |
| SMD150F/33-2920                              | 1.50                  | 3.00                  | 33                                     | 40                      | 1.50                      | 8.00             | 5.00  | 0.080                   | 0.230                    | S4                    |
| SMD200F/24-2920                              | 2.00                  | 4.00                  | 24                                     | 40                      | 1.50                      | 8.00             | 5.00  | 0.050                   | 0.125                    | S4                    |
| 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                    |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S3 — Electrical Characteristics for Surface-Mount Devices at Room Temperature (Cont'd)

| Part Number   | $I_H$<br>(A) | $I_T$<br>(A) | $V_{MAX}$<br>( $V_{DC}$ ) | $I_{MAX}$<br>(A) | $P_{D MAX}$<br>(W) | Max Time-to-Trip |       | $R_{MIN}$<br>( $\Omega$ ) | $R_{1MAX}$<br>( $\Omega$ ) | Figure for Dimensions |
|---|--------------|--------------|---------------------------|------------------|--------------------|------------------|-------|---------------------------|----------------------------|-----------------------|
|   |              |              |                           |                  |                    | (A)              | (S)   |                           |                            |                       |
| <b>SMD2 Devices; Size 8763mm/3425mils</b>   |              |              |                           |                  |                    |                  |       |                           |                            |                       |
| 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                    |
| <b>High Temperature SMD Series; Size 3216mm/1206mils, 3225mm/1210mils &amp; 7555mm/2920mils</b> |              |              |                           |                  |                    |                  |       |                           |                            |                       |
| nanoSMDCH010F   | 0.10         | 0.35         | 30                        | 10               | 0.80               | 1.00             | 0.10  | 1.10                      | 10.00                      | S2                    |
| nanoSMDCH030F/24  | 0.30         | 0.82         | 24                        | 10               | 1.00               | 8.00             | 0.10  | 0.50                      | 1.95                       | S2                    |
| nanoSMDH075F  | 0.75         | 2.00         | 6                         | 10               | 1.10               | 8.00             | 0.10  | 0.10                      | 0.36                       | S5                    |
| microSMDCH010F  | 0.10         | 0.35         | 30                        | 10               | 0.90               | 1.00             | 0.10  | 1.20                      | 11.00                      | S2                    |
| microSMDCH050F  | 0.50         | 1.50         | 6                         | 10               | 1.10               | 8.00             | 0.05  | 0.19                      | 0.90                       | S2                    |
| SMDCH125F/24  | 1.25         | 2.50         | 24                        | 20               | 2.00               | 8.00             | 0.50  | 0.08                      | 0.24                       | S2                    |

### Figures S2-S5 — Dimension Figures



Table S4 — Dimensions 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 |        |
| <b>femtoSMDC Series; Size 1608mm/0603mils</b> |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |        |
| femtoSMDC005F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.45<br>(0.017) | 0.85<br>(0.033) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| femtoSMDC008F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.45<br>(0.017) | 0.85<br>(0.033) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| femtoSMDC010F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.45<br>(0.017) | 0.85<br>(0.033) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S4 — Dimensions 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 |        |
| <b>femtoSMDC Series; Size 1608mm/0603mils</b> |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |        |
| femtoSMDC012F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.35<br>(0.013) | 0.75<br>(0.030) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| femtoSMDC016F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.35<br>(0.013) | 0.75<br>(0.030) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| femtoSMDC020F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.35<br>(0.013) | 0.75<br>(0.030) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| femtoSMDC035F                                 | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.55<br>(0.021) | 0.95<br>(0.037) | 0.60<br>(0.023) | 1.00<br>(0.039) | 0.10<br>(0.004) | 0.50<br>(0.020) | 0.075<br>(0.003) | —   | —   | —   | —   | —   | —   | S2     |
| <b>picoSMDC Series; Size 2012mm/0805mils</b>  |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |        |
| 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     |
| 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     |
| 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     |
| <b>nanoSMDC Series; Size 3216mm/1206mils</b>  |                 |                 |                 |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |        |
| nanoSMDC010F                                  | 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     |
| 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     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S4 — Dimensions 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 |        |
| <b>microSMD Series; Size 3225mm/1210mils</b> |                 |                 |                  |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
| 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     |
| <b>miniSMDC Series; Size 4532mm/1812mils</b> |                 |                 |                  |                 |                 |                 |                 |                 |                  |     |     |     |     |     |     |     |        |
| 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     |
| 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     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S4 — Dimensions 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             |        |
| <b>miniSMDC Series; Size 4532mm/1812mils</b> |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |        |
| 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     |
| 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     |
| <b>midSMD Series; Size 5050mm/2018mils</b>   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |        |
| 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     |
| decaSMD050F/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     |
| <b>SMDC Series; Size 7555mm/2920mils</b>     |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |        |
| SMDC125F/33                                  | 7.30<br>(0.287) | 7.70<br>(0.303) | 0.45<br>(0.018) | 0.71<br>(0.028) | 4.90<br>(0.193) | 5.30<br>(0.209) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —               | —               | —               | —               | —               | —               | S2     |
| SMDC185F/33                                  | 7.30<br>(0.287) | 7.70<br>(0.303) | 0.90<br>(0.035) | 1.20<br>(0.047) | 4.90<br>(0.193) | 5.30<br>(0.209) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —               | —               | —               | —               | —               | —               | S2     |
| SMDC300F/24                                  | 7.30<br>(0.287) | 7.70<br>(0.303) | 0.80<br>(0.031) | 1.10<br>(0.043) | 4.90<br>(0.193) | 5.30<br>(0.209) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008) | —               | —               | —               | —               | —               | —               | S2     |
| SMDC310F/18                                  | 7.30<br>(0.287) | 7.70<br>(0.303) | 1.10<br>(0.043) | 1.70<br>(0.067) | 4.90<br>(0.193) | 5.30<br>(0.209) | 0.95<br>(0.037) | 1.45<br>(0.057) | 0.35<br>(0.014) | —               | —               | —               | —               | —               | —               | S2     |
| <b>SMD Series; Size 7555mm/2920mils</b>      |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |        |
| 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     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S4 — Dimensions 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             |        |
| <b>SMD Series; Size 7555mm/2920mils</b>   |                 |                 |                 |                 |                 |                 |                 |                 |                  |                 |                 |                 |                 |                 |                 |        |
| 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     |
| 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     |
| 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     |
| 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     |
| <b>SMD2 Devices; Size 8763mm/3425mils</b>   |                 |                 |                 |                 |                 |                 |                 |                 |                  |                 |                 |                 |                 |                 |                 |        |
| 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     |
| <b>High Temperature SMD Series; Size 3216mm/1206mils, 3225mm/1210mils &amp; 7555mm/2920mils</b> |                 |                 |                 |                 |                 |                 |                 |                 |                  |                 |                 |                 |                 |                 |                 |        |
| nanoSMDCH010F   | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.30<br>(0.012) | 0.70<br>(0.028) | 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     |
| nanoSMDCH030F/24  | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.85<br>(0.033) | 1.25<br>(0.049) | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —               | —               | —               | —               | —               | —               | S2     |
| nanoSMDH075F  | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.60<br>(0.023) | 1.00<br>(0.039) | 1.40<br>(0.055) | 1.80<br>(0.071) | 0.20<br>(0.008) | 0.80<br>(0.032) | —                | —               | —               | —               | —               | —               | —               | S5     |
| microSMDCH010F  | 3.00<br>(0.118) | 3.43<br>(0.135) | 0.57<br>(0.022) | 0.97<br>(0.038) | 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     |
| microSMDCH050F  | 3.00<br>(0.118) | 3.43<br>(0.135) | 0.24<br>(0.009) | 0.64<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     |
| SMDCH125F/24  | 7.30<br>(0.287) | 7.70<br>(0.303) | 0.90<br>(0.035) | 1.40<br>(0.055) | 4.90<br>(0.193) | 5.30<br>(0.209) | 0.95<br>(0.037) | 1.45<br>(0.057) | 0.35<br>(0.014)  | —               | —               | —               | —               | —               | —               | S2     |

# PolySwitch Resettable Devices

## Surface-Mount Devices

### Figures S6-S15 — Typical Time-to-Trip Curves at 20°C

#### femtoSMDCxxxF

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



#### picoSMDCxxxS

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



#### nanoSMDCxxxF

- A = nanoSMDC010F
- B = nanoSMDC012F
- C = nanoSMDC016F
- D = nanoSMDC020F
- E = nanoSMDC025F
- F = nanoSMDC035F
- G = nanoSMDC050F/13.2
- H = nanoSMDC075F
- I = nanoSMDC110F
- J = nanoSMDC150F
- K = nanoSMDC200F



# PolySwitch Resettable Devices

## Surface-Mount Devices

Figures S6-S15 — Typical Time-to-Trip Curves at 20°C

(Cont'd)

### microSMDxxxF

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



### miniSMDCxxxF

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>A = miniSMDC010F, miniSMDC014F</li> <li>B = miniSMDC020F</li> <li>C = miniSMDC030F</li> <li>D = miniSMDC050F</li> <li>E = miniSMDC075F</li> <li>F = miniSMDC075F/24</li> </ul> | <ul style="list-style-type: none"> <li>G = miniSMDC075F/33</li> <li>H = miniSMDC100F, miniSMDC110F</li> <li>I = miniSMDC110F/16</li> <li>J = miniSMDC110F/24</li> <li>K = miniSMDC125F</li> <li>L = miniSMDC125F/16</li> <li>M = miniSMDC150F, miniSMDC150F/12</li> <li>N = miniSMDC150F/16</li> </ul> | <ul style="list-style-type: none"> <li>O = miniSMDC150F/24</li> <li>P = miniSMDC160F</li> <li>Q = miniSMDC200F</li> <li>R = miniSMDC200F/16</li> <li>S = miniSMDC260F</li> <li>T = miniSMDC260F/12, miniSMDC260F/13.2, miniSMDC260F/16</li> <li>U = miniSMDC300F</li> </ul> |
|---|--|---|





# PolySwitch Resettable Devices

## Surface-Mount Devices

Figures S6-S15 — Typical Time-to-Trip Curves at 20°C

(Cont'd)

### midSMD

- A = SMD030F-2018
- B = decaSMDC050F/60
- C = SMD100F-2018
- D = SMD150F-2018
- E = SMD200F-2018

Figure S11



### SMDCxxxF

- A = SMDC125F/33
- B = SMDC185F/33
- C = SMDC300F/24
- D = SMDC310F/18

Figure S12



### 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 S13



# PolySwitch Resettable Devices

## Surface-Mount Devices

Figures S6-S15 — Typical Time-to-Trip Curves at 20°C

(Cont'd)

### SMD2xxxF

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

Figure S14



### High Temperature SMD

- A = nanoSMDCH010F
- B = microSMDCH010F
- C = nanoSMDCH030F/24
- D = microSMDCH050F
- E = nanoSMDH075F
- F = SMDCH125F/24

Figure S15



# PolySwitch Resettable Devices

## Surface-Mount Devices

**Table S5 — Physical Characteristics and Environmental Specifications**

Operating temperature range -40°C to 85°C, -40°C to 125°C for SMDH120, SMDH160 and High Temperature SMD

| Physical Characteristics       |   |                         |                   |
|--------------------------------|---|-------------------------|-------------------|
| Terminal Pad Material          | 100% Matte Tin with Nickel Underplate   |                         |                   |
| Soldering Characteristics      | ANSI/J-STD-002 Category 3 for femtoSMD, picoSMD, nanoSMD, microSMD, miniSMD and SMDC Series<br>ANSI/J-STD-002 Category 1 for SMD Series |                         |                   |
| Solder Heat 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**

| 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) |                    |
| <b>femtoSMDC Series; Size 1608mm/0603mils</b> |                        |                  |              |  |                   |                   |                    |
| 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                                 | 4,000                  | 20,000           | K            | 0.80 (0.032)                             | 0.60 (0.024)      | 0.80 (0.032)      | UL, CSA            |
| <b>picoSMDC Series; Size 2012mm/0805mils</b>  |                        |                  |              |  |                   |                   |                    |
| 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       |
| picoSMDC075S                                  | 3,000                  | 15,000           | M            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, CSA, TÜV       |
| picoSMDC110S                                  | 3,000                  | 15,000           | S            | 1.50 (0.060)                             | 1.00 (0.039)      | 1.20 (0.047)      | UL, TÜV            |
| <b>nanoSMDC Series; Size 3216mm/1206mils</b>  |                        |                  |              |  |                   |                   |                    |
| nanoSMDC010F                                  | 3,000                  | 15,000           | A            | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL, TÜV            |
| 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       |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S6 — Packaging and Marking Information

(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) |                    |
| <b>nanoSMDC Series; Size 3216mm/1206mils</b> |                        |                  |              |  |                   |                   |                    |
| 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       |
| <b>microSMD Series; Size 3225mm/1210mils</b> |                        |                  |              |  |                   |                   |                    |
| 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       |
| <b>miniSMDC Series; Size 4532mm/1812mils</b> |                        |                  |              |  |                   |                   |                    |
| 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       |
| 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       |
| miniSMDC200F/16                              | 2,000                  | 10,000           | 200F 16V     | 3.15 (0.124)                             | 1.68 (0.066)      | 3.10 (0.122)      | UL, TÜV            |
| 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       |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S6 — Packaging and Marking Information

(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) |                    |
| <b>midSMD Series; Size 5050mm/2018mils</b>   |                        |                  |              |  |                   |                   |                    |
| 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       |
| <b>SMDC Series; Size 7555mm/2920mils</b>   |                        |                  |              |  |                   |                   |                    |
| SMDC125F/33  | 4,000                  | 20,000           | 125F         | 5.30 (0.209)                             | 2.00 (0.079)      | 4.60 (0.18)       | UL                 |
| SMDC185F/33  | 4,000                  | 20,000           | 185F 33V     | 5.30 (0.209)                             | 2.00 (0.079)      | 4.60 (0.18)       | UL, CSA, TÜV       |
| SMDC300F/24  | 4,000                  | 20,000           | 300F 24V     | 5.30 (0.209)                             | 2.00 (0.079)      | 4.60 (0.18)       | UL, CSA, TÜV       |
| SMDC310F/18  | 3,000                  | 15,000           | 310F 18V     | 5.30 (0.209)                             | 2.00 (0.079)      | 4.60 (0.18)       | UL, CSA, TÜV       |
| <b>SMD Series; Size 7555mm/2920mils</b>  |                        |                  |              |  |                   |                   |                    |
| 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       |
| SMD150F/33-2920  | 2,000                  | 10,000           | S15F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| SMD200F/24-2920  | 2,000                  | 10,000           | S20F         | 3.10 (0.12)                              | 2.30 (0.09)       | 5.10 (0.201)      | UL, CSA, TÜV       |
| 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       |
| <b>SMD2 Devices; Size 8763mm/3425mils</b>  |                        |                  |              |  |                   |                   |                    |
| 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       |
| <b>High Temperature SMD Series; Size 3216mm/1206mils &amp; 3225mm/1210mils &amp; 7555mm/2920mils</b> |                        |                  |              |  |                   |                   |                    |
| nanoSMDCH010F  | 4,000                  | 20,000           | H01          | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | —                  |
| nanoSMDCH030F/24   | 3,000                  | 15,000           | H03          | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | UL                 |
| nanoSMDH075F   | 3,000                  | 15,000           | H75          | 1.60 (0.063)                             | 1.00 (0.039)      | 2.00 (0.079)      | —                  |
| microSMDCH010F   | 3,000                  | 15,000           | H01          | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | —                  |
| microSMDCH050F   | 4,000                  | 20,000           | H05          | 2.50 (0.098)                             | 1.00 (0.039)      | 2.00 (0.079)      | —                  |
| SMDCH125F/24   | 3,000                  | 15,000           | H125F 24V    | 5.30 (0.209)                             | 2.00 (0.079)      | 4.60 (0.181)      | UL                 |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Figure S16 — Recommended Pad Layout



## Agency Recognition

|     |  |
|-----|--|
| 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

### 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.



## 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, miniSMD and SMDC 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.

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S7 — Tape and Reel Specifications (Millimeters)

| Description        | femtoSMDC                            | picoSMDC                 | nanoSMDC<br>nanoSMDCCH010F<br>nanoSMDCCH030F/24<br>and<br>nanoSMDCCH075F | microSMDC<br>microSMDCCH010F<br>and<br>microSMDCCH050F | miniSMDC<br>and<br>decaSMDC050F/60 |
|--------------------|--------------------------------------|--------------------------|--|--|------------------------------------|
|                    | EIA 481-1                            | EIA 481-1                | EIA 481-1  | EIA 481-1  | EIA 481-1                          |
| W                  | 8.0 ± 0.30                           | 8.0 ± 0.30               | 8.0 ± 0.30   | 8.0 ± 0.30   | 12.0 ± 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                         |
| P <sub>1</sub>     | 4.0 ± 0.10                           | 4.0 ± 0.10               | 4.0 ± 0.10   | 4.0 ± 0.10   | 8.0 ± 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                         |
| A <sub>0</sub>     | 0.95 ± 0.05                          | 1.70 ± 0.10              | 1.95 ± 0.10  | 2.9 ± 0.10   | Table S8                           |
| B <sub>0</sub>     | 1.85 ± 0.05                          | 2.45 ± 0.10              | Table S8   | Table S8   | Table S8                           |
| B <sub>1</sub> max | 4.35                                 | 4.35                     | 4.35   | 4.35   | 6.15                               |
| D <sub>0</sub>     | 1.55 ± 0.05                          | 1.55 ± 0.05              | 1.55 ± 0.05  | 1.55 ± 0.05  | 1.55 ± 0.05                        |
| F                  | 3.50 ± 0.05                          | 3.50 ± 0.05              | 3.50 ± 0.05  | 3.50 ± 0.05  | 5.50 ± 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                        |
| E <sub>2</sub> min | 6.25                                 | 6.25                     | 6.25   | 6.25   | 10.25                              |
| T max              | 0.3                                  | 0.3                      | 0.3  | 0.3  | 0.35                               |
| T <sub>1</sub> max | 0.1                                  | 0.1                      | 0.1  | 0.1  | 0.1                                |
| K <sub>0</sub>     | Table S8                             | Table S8                 | Table S8   | Table S8   | Table S8                           |
| Description        | midSMDC<br>except<br>decaSMDC050F/60 | SMDC<br>and SMDCH125F/24 | SMD  | SMD2   |                                    |
|                    | EIA 481-2                            | EIA 481-1                | EIA 481-2  | EIA 481-2  |                                    |
| W                  | 16.0 ± 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   |                                    |
| P <sub>1</sub>     | 8.0 ± 0.10                           | 8.0 ± 0.10               | 8.0 ± 0.10   | 12.0 ± 0.10  |                                    |
| P <sub>2</sub>     | 2.0 ± 0.10                           | 2.0 ± 0.10               | 2.0 ± 0.10   | 2.0 ± 0.10   |                                    |
| A <sub>0</sub>     | 5.11 ± 0.15                          | Table S8                 | 5.6 ± 0.23   | 6.9 ± 0.23   |                                    |
| B <sub>0</sub>     | 5.6 ± 0.23                           | Table S8                 | 8.1 ± 0.15   | 9.6 ± 0.15   |                                    |
| B <sub>1</sub> max | 6.4                                  | 12.1                     | 12.1   | 12.1   |                                    |
| D <sub>0</sub>     | 1.5 + 0.10/ -.00                     | 1.5 + 0.10/ -.00         | 1.5 + 0.10/ -.00   | 1.5 + 0.10/ -.00                                       |                                    |
| F                  | 7.50 ± 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  |                                    |
| E <sub>2</sub> min | 14.25                                | 14.25                    | 14.25  | 14.25  |                                    |
| T max              | 0.4                                  | 0.35                     | 0.4  | 0.4  |                                    |
| T <sub>1</sub> max | 0.1                                  | 0.1                      | 0.1  | 0.1  |                                    |
| K <sub>0</sub>     | 1.8 ± 0.15                           | Table S8                 | 3.2 ± 0.15   | 3.4 ± 0.15   |                                    |

# PolySwitch Resettable Devices

## Surface-Mount Devices

Table S8 — Tape and Reel Specifications (Millimeters)

|                | femtoSMDC005F<br>femtoSMDC008F<br>femtoSMDC010F<br>femtoSMDC035F             | femtoSMDC012F<br>femtoSMDC016F<br>femtoSMDC020F | picoSMDC012S<br>picoSMDC020S<br>picoSMDC035S                       | picoSMDC010S<br>picoSMDC050S<br>picoSMDC075S | picoSMDC110S   | nanoSMDC010F and<br>All nanoSMDC series<br>except nanoSMDC010F<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   |
|                | nanoSMDH075F<br>nanoSMDC010F<br>nanoSMDC012F<br>nanoSMDC016F<br>nanoSMDC200F | nanoSMDC030F/24                                 | microSMDC050F<br>and<br>All microSMD series<br>except microSMD200F | microSMDC010F<br>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 |
| A <sub>0</sub> | 1.95 ± 0.1   | 1.95 ± 0.1                                      | 2.9 ± 0.1  | 2.9 ± 0.1                                    | 3.5 ± 0.1  | 3.7 ± 0.1  |
| B <sub>0</sub> | 3.5 ± 0.1  | 3.5 ± 0.1                                       | 3.5 ± 0.1  | 3.55 ± 0.1                                   | 4.95 ± 0.1   | 4.9 ± 0.1  |
| K <sub>0</sub> | 1.27 ± 0.1   | 1.35 ± 0.1                                      | 0.9 ± 0.1  | 1.27 ± 0.1                                   | 0.9 ± 0.1  | 1.4 ± 0.1  |
|                | miniSMDC150F/24  | decaSMDC050F/60                                 | SMDCH125F/33   | SMDC185F/33<br>SMDC300F/24                   | SMDC310F/18<br>SMDCH125F/24  |  |
| A <sub>0</sub> | 3.7 ± 0.1  | 5.0 ± 0.1                                       | 5.5 ± 0.1  | 5.35 ± 0.1                                   | 5.5 ± 0.1  |  |
| B <sub>0</sub> | 4.9 ± 0.1  | 5.4 ± 0.1                                       | 7.9 ± 0.1  | 7.85 ± 0.1                                   | 8.0 ± 0.1  |  |
| K <sub>0</sub> | 1.78 ± 0.1   | 1.7 ± 0.1                                       | 0.9 ± 0.1  | 1.45 ± 0.1                                   | 2.0 ± 0.1  |  |

Table S9 — Reel Dimensions (Millimeters)

|                    | femto/pico/nano/microSMD/<br>High Temperature SMD<br>(except SMDCH125F/24) | miniSMDC         | midSMD           | SMD/SMDC/<br>SMDCH125F/24 | 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 S18 — EIA Referenced Taped Component Dimensions





# PolySwitch Resettable Devices

## Surface-Mount Devices

Figure S19 — EIA Referenced Reel Dimensions



## Part Numbering System



### **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 ( $Ldi/dt$ ) above the rated voltage of the device.

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- Экспресс доставка в любую точку России;
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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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