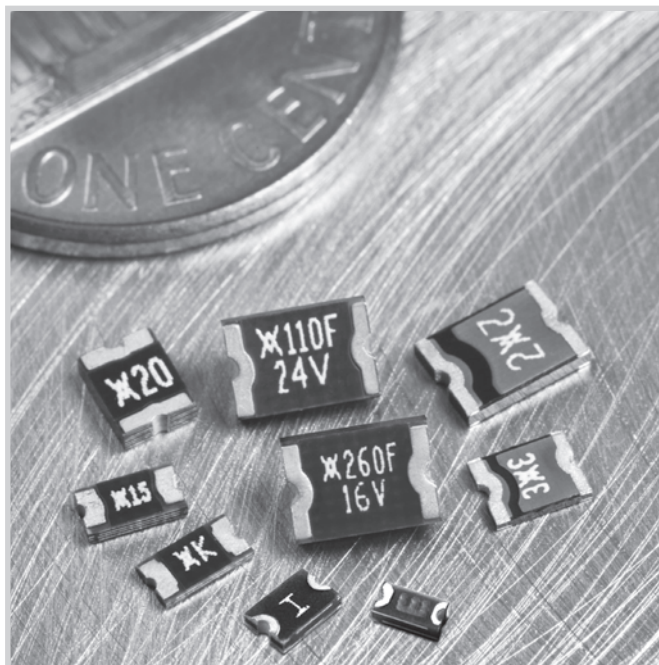


PolySwitch Resettable Devices Surface-Mount Devices

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

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

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



Benefits

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

Features

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

Applications

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

Application Selection Table for PolySwitch Surface-Mount Devices

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

PolySwitch Resettable Devices - Key Selection Criteria

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

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

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

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

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

| Part Number | Maximum Ambient Temperature | | | | | | | | | | | |
|-----------------------------|-----------------------------|-------|------|------|------|------|------|------|------|------|------|-------|
| | -40°C | -20°C | 0°C | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 80°C | 85°C | 125°C |
| femtoSMDC Series | | | | | | | | | | | | |
| Size 1608mm/0603mils | | | | | | | | | | | | |
| 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 | — |
| picoSMDC Series | | | | | | | | | | | | |
| Size 2012mm/0805mils | | | | | | | | | | | | |
| picoSMDC010S | 0.17 | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | — |
| picoSMDC012S | 0.20 | 0.17 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | — |
| picoSMDC020S | 0.30 | 0.27 | 0.24 | 0.21 | 0.20 | 0.18 | 0.16 | 0.15 | 0.13 | 0.12 | 0.11 | — |
| picoSMDC035S | 0.55 | 0.49 | 0.44 | 0.37 | 0.35 | 0.31 | 0.28 | 0.26 | 0.23 | 0.20 | 0.18 | — |
| picoSMDC050S | 0.70 | 0.62 | 0.55 | 0.55 | 0.50 | 0.43 | 0.38 | 0.33 | 0.30 | 0.28 | 0.26 | — |
| NEW picoSMDC075S | 1.13 | 1.01 | 0.90 | 0.78 | 0.75 | 0.67 | 0.61 | 0.55 | 0.49 | 0.43 | 0.40 | — |
| NEW picoSMDC110S | 1.64 | 1.47 | 1.30 | 1.14 | 1.10 | 0.97 | 0.89 | 0.80 | 0.72 | 0.64 | 0.59 | — |
| nanoSMDC Series | | | | | | | | | | | | |
| Size 3216mm/1206mils | | | | | | | | | | | | |
| 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 | — |
| microSMD Series | | | | | | | | | | | | |
| Size 3225mm/1210mils | | | | | | | | | | | | |
| 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 | — |
| miniSMDC Series | | | | | | | | | | | | |
| Size 4532mm/1812mils | | | | | | | | | | | | |
| miniSMDC010F | 0.17 | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | — |
| miniSMDC014F | 0.23 | 0.20 | 0.17 | 0.14 | 0.13 | 0.11 | 0.10 | 0.09 | 0.07 | 0.06 | 0.05 | — |
| miniSMDC020F | 0.30 | 0.27 | 0.23 | 0.20 | 0.19 | 0.17 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | — |
| miniSMDC030F | 0.49 | 0.44 | 0.39 | 0.32 | 0.30 | 0.27 | 0.24 | 0.22 | 0.18 | 0.16 | 0.14 | — |
| miniSMDC050F | 0.59 | 0.57 | 0.55 | 0.50 | 0.48 | 0.45 | 0.43 | 0.35 | 0.30 | 0.25 | 0.23 | — |
| miniSMDC075F | 1.10 | 0.99 | 0.87 | 0.75 | 0.72 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.35 | — |
| miniSMDC075F/24 | 1.50 | 1.25 | 1.00 | 0.75 | 0.73 | 0.65 | 0.60 | 0.55 | 0.50 | 0.45 | 0.43 | — |
| NEW miniSMDC075F/33 | 1.09 | 0.98 | 0.87 | 0.77 | 0.75 | 0.66 | 0.61 | 0.55 | 0.50 | 0.45 | 0.42 | — |
| miniSMDC100F | 1.60 | 1.45 | 1.28 | 1.10 | 1.07 | 0.92 | 0.83 | 0.71 | 0.66 | 0.57 | 0.52 | — |

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

Cont'd

| Part Number | Maximum Ambient Temperature | | | | | | | | | | | |
|-----------------------------|-----------------------------|-------|------|------|------|------|------|------|------|------|------|-------|
| | -40°C | -20°C | 0°C | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 80°C | 85°C | 125°C |
| miniSMDC Series | | | | | | | | | | | | |
| Size 4532mm/1812mils | | | | | | | | | | | | |
| 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 | — |
| NEW 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 | — |
| midSMD Series | | | | | | | | | | | | |
| Size 5050mm/2018mils | | | | | | | | | | | | |
| SMD030F-2018 | 0.48 | 0.42 | 0.35 | 0.30 | 0.28 | 0.24 | 0.21 | 0.17 | 0.15 | 0.12 | 0.10 | — |
| decaSMD050F/60 | 1.00 | 0.85 | 0.70 | 0.55 | 0.53 | 0.45 | 0.40 | 0.35 | 0.30 | 0.25 | 0.23 | — |
| SMD100F-2018 | 1.59 | 1.43 | 1.20 | 1.10 | 1.03 | 0.94 | 0.85 | 0.72 | 0.69 | 0.61 | 0.57 | — |
| SMD150F-2018 | 2.21 | 1.97 | 1.70 | 1.50 | 1.43 | 1.26 | 1.15 | 1.00 | 0.91 | 0.79 | 0.73 | — |
| SMD200F-2018 | 2.81 | 2.54 | 2.27 | 2.00 | 1.93 | 1.73 | 1.59 | 1.46 | 1.32 | 1.19 | 1.12 | — |
| SMD Series | | | | | | | | | | | | |
| Size 7555mm/2920mils | | | | | | | | | | | | |
| 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 | — |
| NEW 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 | — |
| NEW 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 | — |
| NEW 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 | — |
| SMD2 Series | | | | | | | | | | | | |
| Size 8763mm/3425mils | | | | | | | | | | | | |
| SMD150F | 2.30 | 2.04 | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | — |
| SMD150F/33 | 2.30 | 2.04 | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | — |
| SMDH160 | 2.14 | 1.96 | 1.78 | 1.60 | 1.56 | 1.42 | 1.33 | 1.24 | 1.15 | 1.06 | 1.02 | 0.44 |
| SMD185F | 2.54 | 2.29 | 2.20 | 1.85 | 1.80 | 1.55 | 1.43 | 1.31 | 1.19 | 1.06 | 1.00 | — |
| SMD200F | 3.01 | 2.67 | 2.30 | 2.00 | 1.90 | 1.66 | 1.50 | 1.30 | 1.16 | 0.99 | 0.91 | — |
| SMD250F | 3.72 | 3.31 | 2.80 | 2.50 | 2.35 | 2.09 | 1.89 | 1.60 | 1.48 | 1.28 | 1.18 | — |

Figure S1 Thermal Derating Curve for PolySwitch Surface-Mount Devices

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

B = SMDH120 and SMDH160

Figure S1

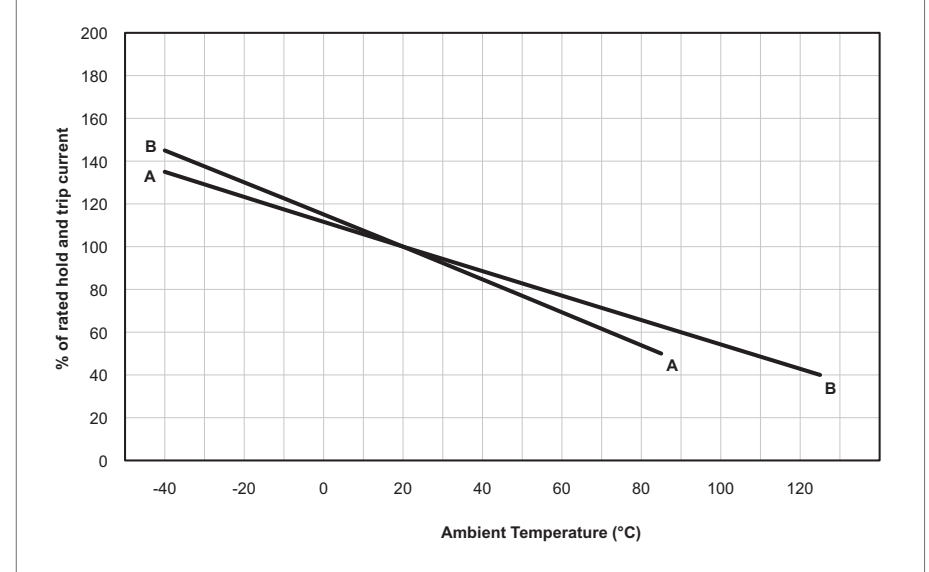


Table S3 Electrical Characteristics for PolySwitch Surface-Mount Devices at Room Temperature

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

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

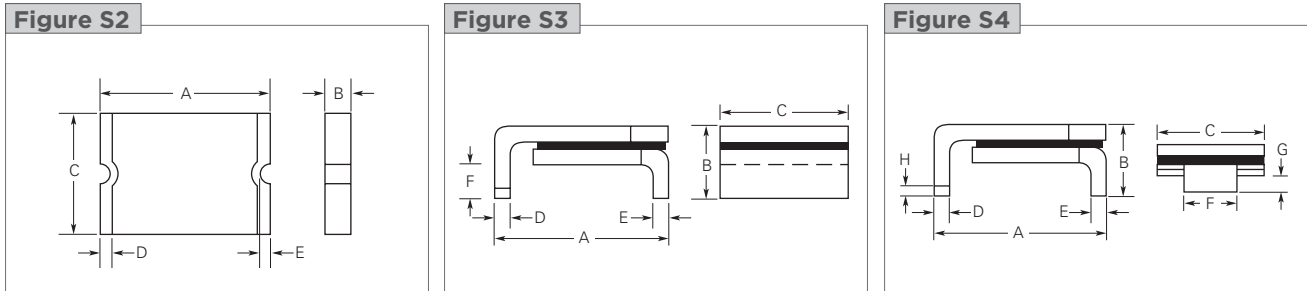
Cont'd

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

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

Cont'd

| Part Number | I _H (A) | I _T (A) | V _{MAX} (V _{DC}) | I _{MAX} (A) | P _{D MAX} (W) | Max Time-to-Trip | | R _{MIN} (Ω) | R _{1MAX} (Ω) | Figure for Dimensions |
|-----------------------------|-----------------------|-----------------------|--|-------------------------|---------------------------|------------------|-------|-------------------------|--------------------------|--------------------------|
| | | | | | | (A) | (S) | | | |
| SMD Series | | | | | | | | | | |
| Size 7555mm/2920mils | | | | | | | | | | |
| SMD030F | 0.30 | 0.60 | 60 | 10 | 1.70 | 1.50 | 3.00 | 1.200 | 4.800 | S4 |
| SMD050F | 0.50 | 1.00 | 60 | 10 | 1.70 | 2.50 | 4.00 | 0.350 | 1.400 | S4 |
| SMD075F | 0.75 | 1.50 | 30 | 40 | 1.70 | 8.00 | 0.30 | 0.350 | 1.000 | S4 |
| SMD075F/60 | 0.75 | 1.50 | 60 | 10 | 1.70 | 8.00 | 0.30 | 0.350 | 1.000 | S4 |
| SMD100F | 1.10 | 2.20 | 30 | 40 | 1.70 | 8.00 | 0.50 | 0.120 | 0.480 | S4 |
| SMD100F/33 | 1.10 | 2.20 | 33 | 40 | 1.70 | 8.00 | 0.50 | 0.120 | 0.410 | S4 |
| SMDH120 | 1.20 | 2.30 | 16 | 50 | 2.00 | 8.00 | 2.00 | 0.150 | 0.340 | S4 |
| SMD125F | 1.25 | 2.50 | 15 | 40 | 1.70 | 8.00 | 2.00 | 0.070 | 0.250 | S4 |
| NEW SMD150F/33-2920 | 1.50 | 3.00 | 33 | 40 | 1.50 | 8.00 | 5.00 | 0.080 | 0.230 | S4 |
| NEW SMD200F/24-2920 | 2.00 | 4.00 | 24 | 40 | 1.50 | 8.00 | 5.00 | 0.050 | 0.125 | S4 |
| NEW SMD250F/15-2920 | 2.50 | 5.00 | 15 | 40 | 1.50 | 8.00 | 10.00 | 0.035 | 0.085 | S4 |
| SMD260F | 2.60 | 5.20 | 6 | 40 | 1.70 | 8.00 | 20.00 | 0.025 | 0.075 | S4 |
| SMD300F | 3.00 | 6.00 | 6 | 40 | 1.50 | 8.00 | 35.00 | 0.015 | 0.048 | S4 |
| SMD300F/15 | 3.00 | 6.00 | 15 | 40 | 1.50 | 8.00 | 35.00 | 0.015 | 0.050 | S4 |
| SMD2 Devices | | | | | | | | | | |
| Size 8763mm/3425mils | | | | | | | | | | |
| SMD150F | 1.50 | 3.00 | 15 | 40 | 1.90 | 8.00 | 5.00 | 0.060 | 0.250 | S4 |
| SMD150F/33 | 1.50 | 3.00 | 33 | 40 | 1.90 | 8.00 | 5.00 | 0.080 | 0.230 | S4 |
| SMDH160 | 1.60 | 3.20 | 16 | 70 | 2.20 | 8.00 | 15.00 | 0.050 | 0.150 | S4 |
| SMD185F | 1.85 | 3.60 | 33 | 40 | 1.50 | 8.00 | 5.00 | 0.065 | 0.165 | S4 |
| SMD200F | 2.00 | 4.00 | 15 | 40 | 1.90 | 8.00 | 12.00 | 0.050 | 0.125 | S4 |
| SMD250F | 2.50 | 5.00 | 15 | 40 | 1.90 | 8.00 | 25.00 | 0.035 | 0.085 | S4 |

Figures S2-S4 Dimension Figures for Surface-Mount Devices

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

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

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

Cont'd

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

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

Cont'd

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

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

Cont'd

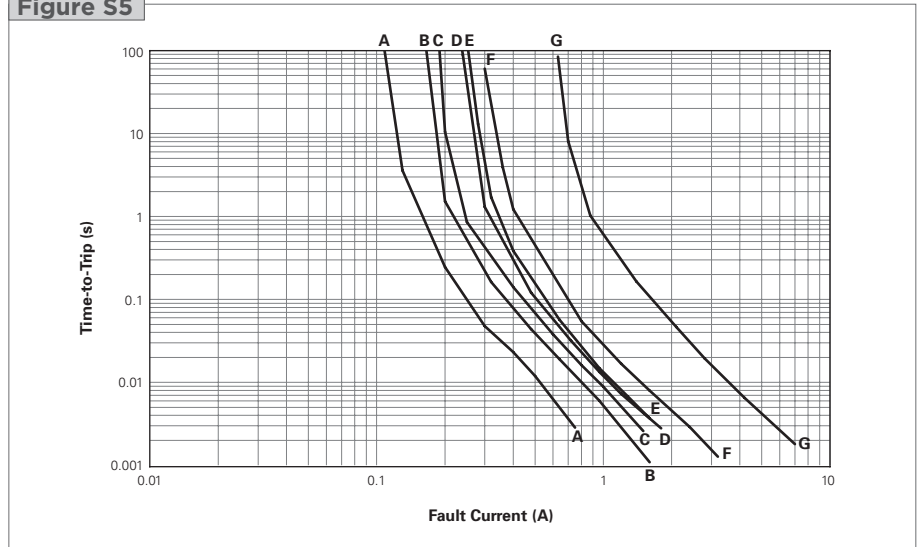
| Part Number | A | | B | | C | | D | | E | | F | | G | | H | Figure |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------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

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

femtoSMDCxxxF

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

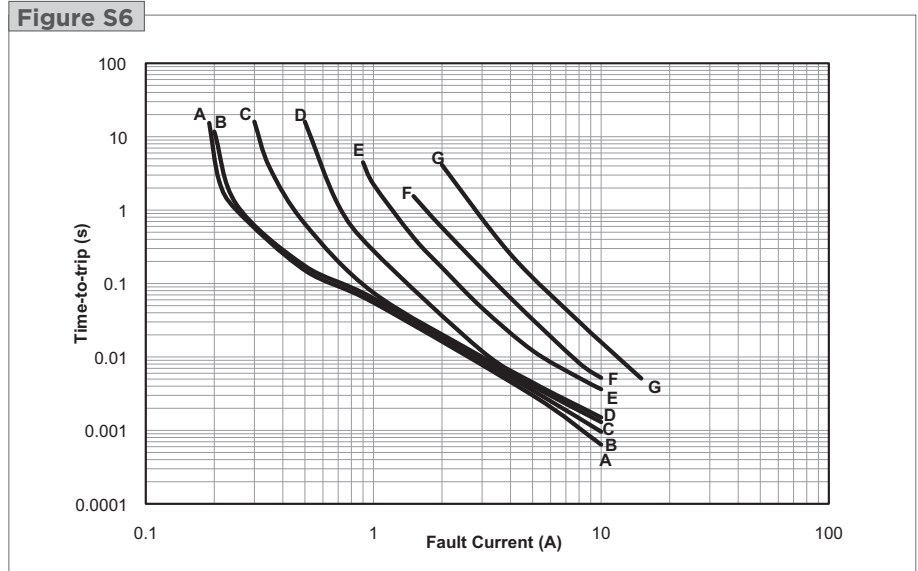
Figure S5



picoSMDCxxxS

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

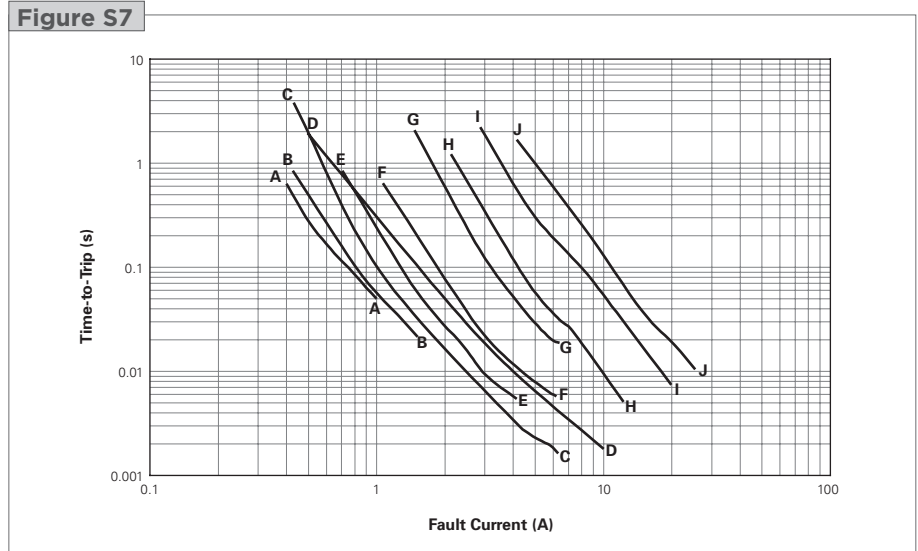
Figure S6



nanoSMDCxxxF

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

Figure S7

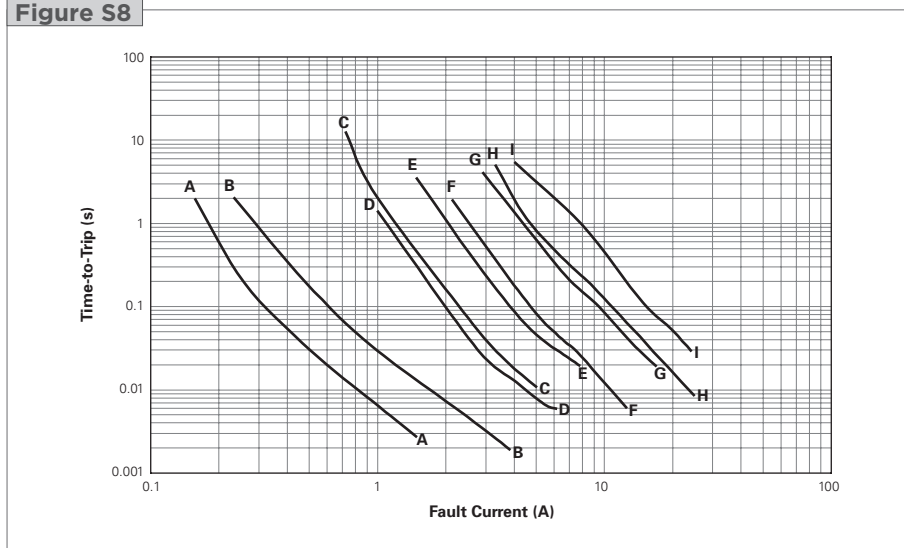


Figures S5-S12 Typical Time-to-Trip Curves at 20°C for PolySwitch Surface-Mount Devices

Cont'd

microSMDxxxF

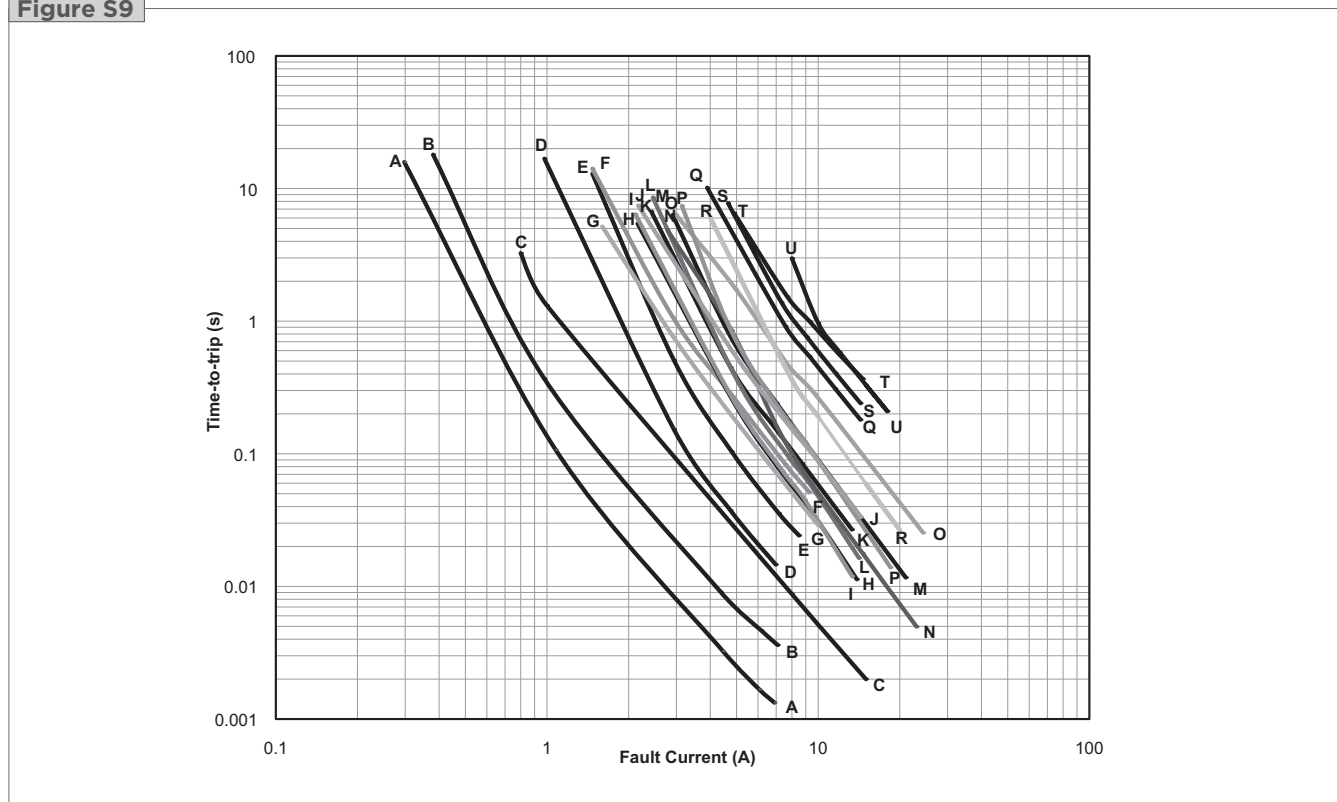
- A = microSMD005F
- B = microSMD010F
- C = microSMD035F
- D = microSMD050F
- E = microSMD075F
- F = microSMD110F
- G = microSMD150F
- H = microSMD175F
- I = microSMD200F

Figure S8

miniSMDCxxxF

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

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

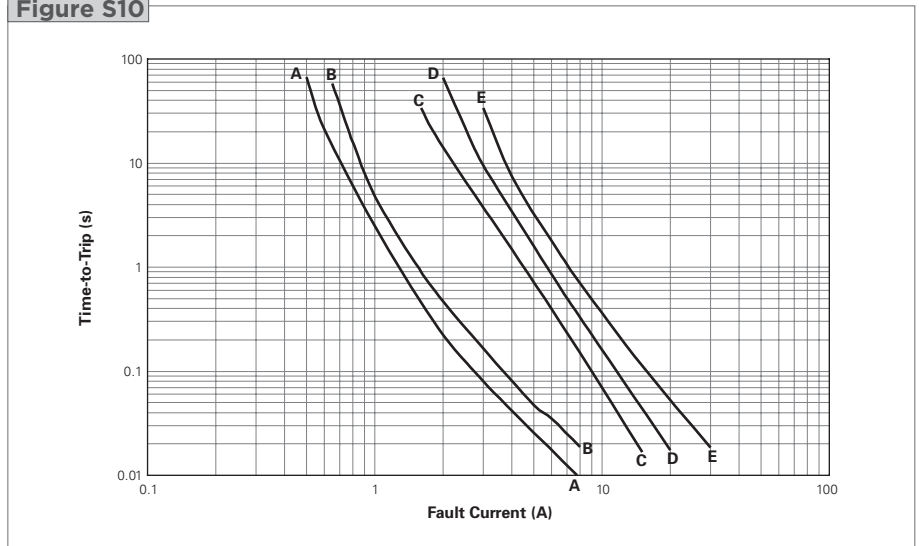
- O = miniSMDC150F/24
- P = miniSMDC160F
- Q = miniSMDC200F
- R = miniSMDC200F/16
- S = miniSMDC260F
- T = miniSMDC260F/12, miniSMDC260F/13.2, miniSMDC260F/16
- U = miniSMDC300F

Figure S9


midSMD

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

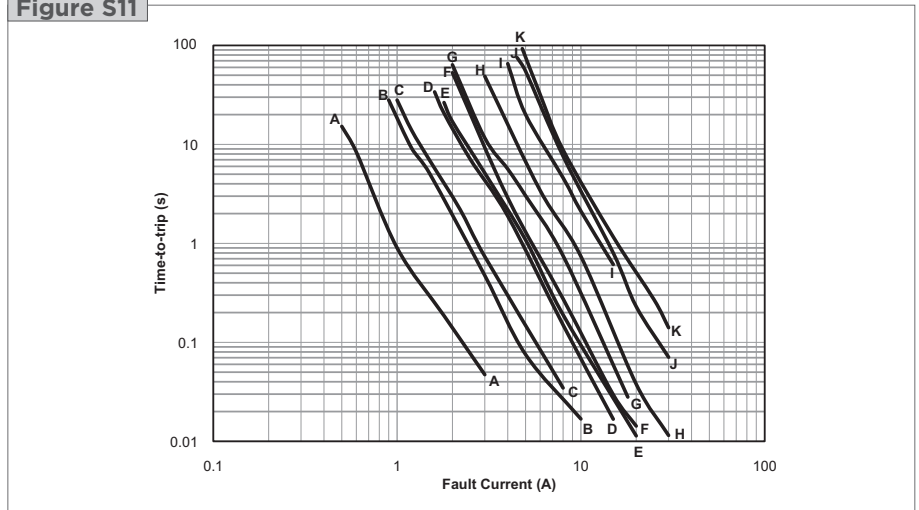
Figure S10



SMDxxxF

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

Figure S11



SMD2xxxF

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

Figure S12

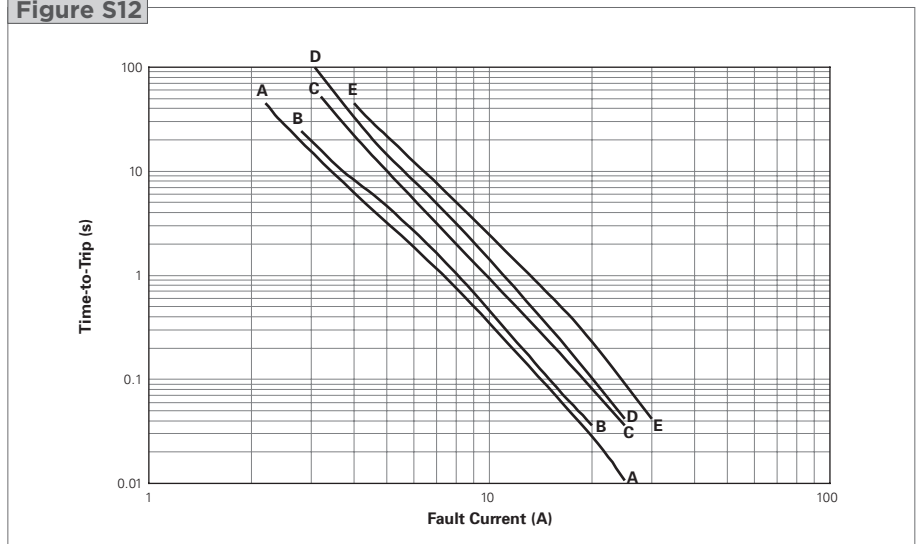


Table S5 Physical Characteristics and Environmental Specifications for PolySwitch Surface-Mount Devices Operating Temperature Range -40°C to 85°C, -40°C to 125°C for SMDH120 and SMDH160

| Physical Characteristics | | | |
|--------------------------------|---|-------------------------|-------------------|
| Terminal Pad Material | 100% Matte Tin with Nickel Underplate | | |
| Soldering Characteristics | ANSI/J-STD-002 Category 3 for femtoSMD, picoSMD, nanoSMD, microSMD and miniSMD Series ANSI/J-STD-002 Category 1 for SMD Series | | |
| SolderHeat Withstand | per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A | | |
| Flammability Resistance | per IEC 695-2-2 Needle Flame Test for 20 seconds | | |
| Recommended Storage Conditions | 40°C max, 70% R.H. max; Devices May Not Meet Specified Ratings if Storage Conditions Are Exceeded | | |
| Environmental Specifications | | | |
| Test | Test Method | Conditions | Resistance Change |
| Storage Life | PS300, Section 5.3.2 | 60°C, 1000 hrs | ±3% typ |
| | | 85°C, 1000 hrs | ±5% typ |
| Humidity Aging | PS300, Section 5.3.1 | 85°C, 85% RH, 100 hrs | ±1.2% typ |
| Thermal Shock | MIL-STD-202, Method 107G | 85°C, -40°C (20 Times) | -33% typ |
| | | 125°C, -55°C (10 Times) | -33% typ |
| Vibration | MIL-STD-883C | per MIL-STD-883C | No Change |
| Solvent Resistance | PS300, Section 5.2.2 | Freon | No Change |
| | | Trichloroethane | No Change |
| | | Hydrocarbons | No Change |

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

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

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

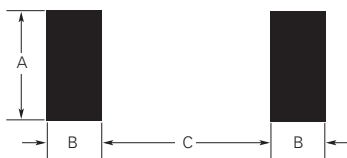
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| Part Number | Tape and Reel Quantity | Standard Package | Part Marking | Recommended Pad Layout Figures [mm (in)] | | | Agency Recognition |
|-----------------------------|------------------------|------------------|--------------|--|-------------------|-------------------|--------------------|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

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

Cont'd

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

Figure S13 Recommended Pad Layout for PolySwitch Surface-Mount Devices

Agency Recognition for PolySwitch Surface-Mount Devices

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

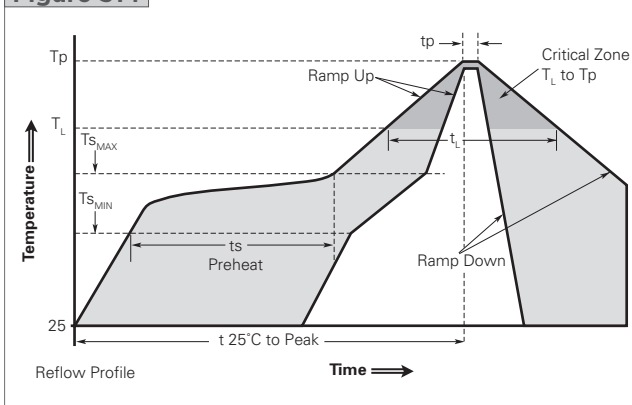
Solder Reflow and Rework Recommendation for PolySwitch Surface-Mount Devices

Classification Reflow Profiles

| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average Ramp-up Rate (Ts_{MAX} to Tp) | 3°C/s max |
| Preheat | |
| • Temperature min (Ts _{MIN}) | 150°C |
| • Temperature max (Ts _{MAX}) | 200°C |
| • Time (ts _{MIN} to ts _{MAX}) | 60-120s |
| Time Maintained Above: | |
| • Temperature (T _L) | 217°C |
| • Time (t _l) | 60-150s |
| Peak/Classification Temperature (Tp) | 260°C |
| Time within 5°C of Actual Peak Temperature | |
| Time (tp) | 30s max |
| Ramp-down Rate | 3°C/s max |
| Time 25°C to Peak Temperature | 8 mins max |

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

Figure S14



Solder Reflow

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

Rework

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

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

| Description | femtoSMDC EIA 481-1 | picoSMDC EIA 481-1 | nanoSMDC EIA 481-1 | microSMD EIA 481-1 | miniSMDC and decaSMDC050F/60 EIA 481-1 | midSMD except decaSMDC050F/60 EIA 481-2 | SMD EIA 481-2 | SMD2 EIA 481-2 |
|--------------------|------------------------|-----------------------|-----------------------|-----------------------|---|--|------------------|-------------------|
| W | 8.0 ± 0.30 | 8.0 ± 0.30 | 8.0 ± 0.30 | 8.0 ± 0.30 | 12.0 ± 0.30 | 16.0 ± 0.30 | 16.0 ± 0.30 | 16.0 ± 0.30 |
| P ₀ | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 |
| P ₁ | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 4.0 ± 0.10 | 8.0 ± 0.10 | 8.0 ± 0.10 | 8.0 ± 0.10 | 12.0 ± 0.10 |
| P ₂ | 2.0 ± 0.05 | 2.0 ± 0.10 | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.10 | 2.0 ± 0.10 | 2.0 ± 0.10 |
| A ₀ | 0.95 ± 0.05 | 1.70 ± 0.10 | 1.95 ± 0.10 | 2.9 ± 0.10 | Table S8 | 5.11 ± 0.15 | 5.6 ± 0.23 | 6.9 ± 0.23 |
| B ₀ | 1.85 ± 0.05 | 2.45 ± 0.10 | Table S8 | Table S8 | Table S8 | 5.6 ± 0.23 | 8.1 ± 0.15 | 9.6 ± 0.15 |
| B ₁ max | 4.35 | 4.35 | 4.35 | 4.35 | 6.15 | 6.4 | 12.1 | 12.1 |
| D ₀ | 1.55 ± 0.05 | 1.55 ± 0.05 | 1.55 ± 0.05 | 1.55 ± 0.05 | 1.55 ± 0.05 | 1.5 + 0.10/-0.00 | 1.5 + 0.10/-0.00 | 1.5 + 0.10/-0.00 |
| F | 3.50 ± 0.05 | 3.50 ± 0.05 | 3.50 ± 0.05 | 3.50 ± 0.05 | 5.50 ± 0.10 | 7.50 ± 0.10 | 7.50 ± 0.10 | 7.50 ± 0.10 |
| E ₁ | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 |
| E ₂ min | 6.25 | 6.25 | 6.25 | 6.25 | 10.25 | 14.25 | 14.25 | 14.25 |
| T max | 0.3 | 0.3 | 0.3 | 0.3 | 0.35 | 0.4 | 0.4 | 0.4 |
| T ₁ max | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| K ₀ | Table S8 | Table S8 | Table S8 | Table S8 | Table S8 | 1.8 ± 0.15 | 3.2 ± 0.15 | 3.4 ± 0.15 |

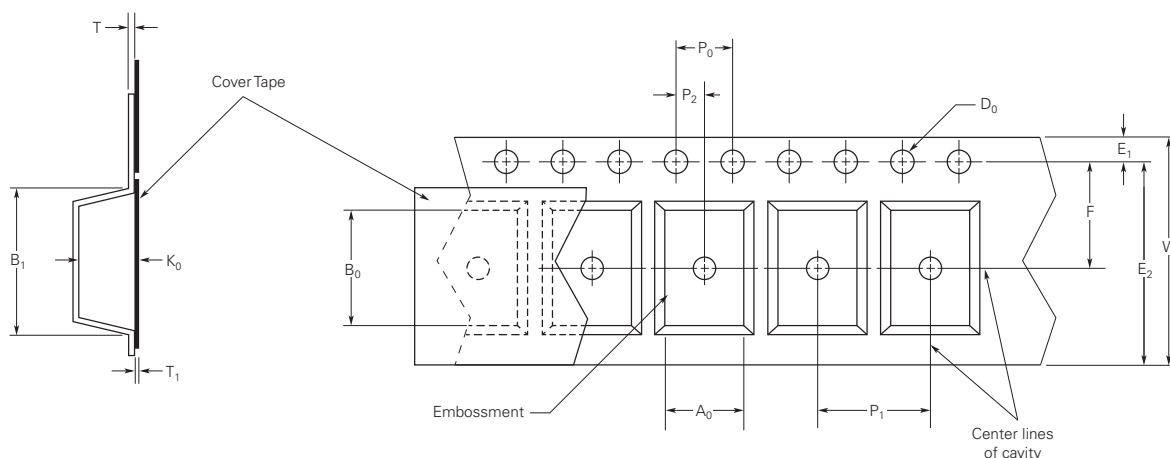
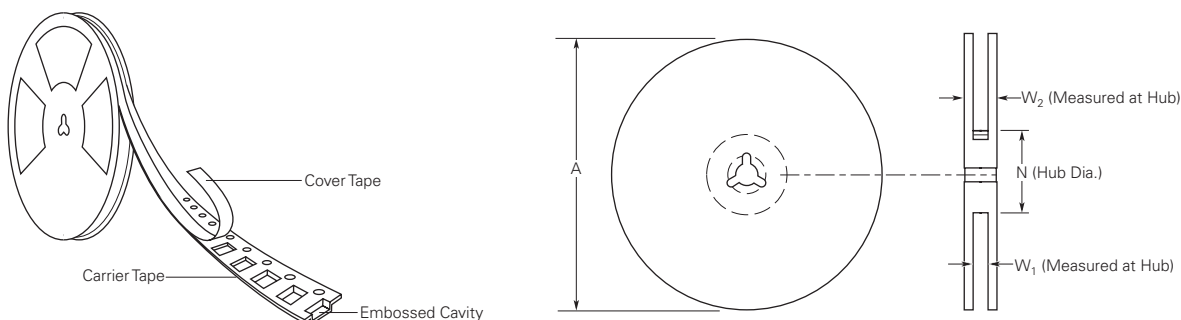
Table S8 Tape and Reel Specifications for PolySwitch Surface-Mount Devices (Millimeters)

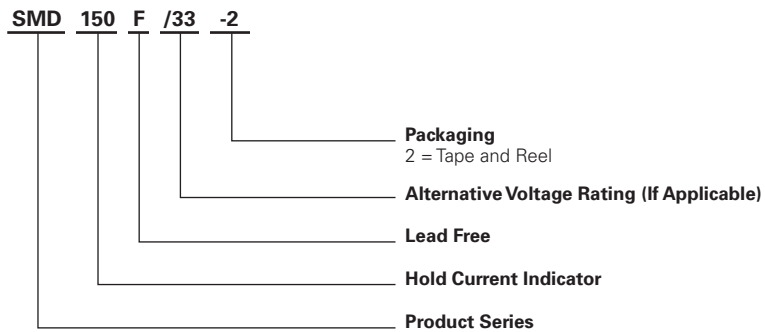
| | femtoSMDC005F femtoSMDC008F femtoSMDC010F | femtoSMDC012F femtoSMDC016F femtoSMDC020F femtoSMDC035F | picoSMDC012S picoSMDC020S picoSMDC035S | picoSMDC010S picoSMDC050S picoSMDC075S | picoSMDC110S | All nanoSMDC Series Except nanoSMDC012F nanoSMDC016F nanoSMDC200F |
|----------------|---|--|--|--|--------------|--|
| A ₀ | 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 ₀ | 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 ₀ | 0.90 ± 0.1 | 0.55 ± 0.05 | 0.86 ± 0.1 | 1.12 ± 0.1 | 1.35 ± 0.1 | 0.89 ± 0.1 |

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

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

| | femto/pico/nano/microSMD | miniSMDC | midSMD | SMD | SMD2 |
|--------------------|--------------------------|------------------|------------------|------------------|------------------|
| A max | 185 | 185 | 330 | 330 | 330 |
| N min | 50 | 50 | 50 | 50 | 50 |
| W ₁ | 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 ₂ max | 14.4 | 18.4 | 22.4 | 22.4 | 22.4 |

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

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




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.