



PolySwitch Resettable Devices

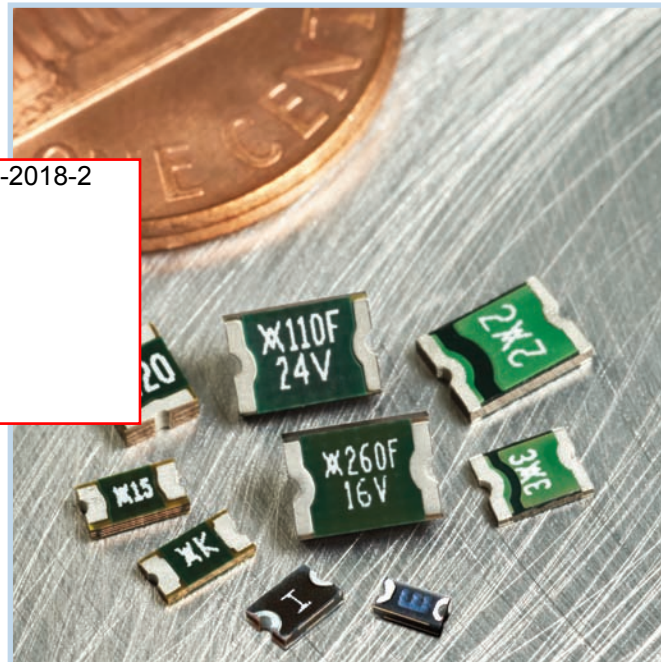
Surface-mount Devices

PolySwitch surface-mount devices are the preferred 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, we 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, one twelfth the size of the popular miniSMD series.

Recent additions to the PolySwitch surface-mount series include 0.5A picoSMD 1210mm (0805 mils) and 0.35A femtoSMD 1608mm (0603 mils) devices.

SMD030F-2018-2



Benefits

- Smaller size saves board space and cost
- Many product choices give engineers more 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 Surface-mount Devices

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

| Protection Application | Additional Comments | Overcurrent Overvoltage | PolySwitch Resettable Devices - Key Selection Criteria | | |
|-----------------------------|----------------------|----------------------------|--|-------------------|---|
| | | | 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 | miniSMDE190F |
| 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 Surface-mount Devices

| | femtoSMD | picoSMD | nanoSMD | microSMD | miniSMD | midSMD | SMD | SMD2 | miniSMDE | decaSMD |
|-------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| Size mm | 1608 | 2012 | 3216 | 3225 | 4532 | 5050 | 7555 | 8763 | 11550 | 5050 |
| (mils) | (0603) | (0805) | (1206) | (1210) | (1812) | (2018) | (2920) | (3425) | (4420) | (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} /1.00Ω | 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} /0.31Ω* | 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 | — | — | — |
| 1.000 | — | — | — | — | — | 15V _{DC} /0.40Ω | 30V _{DC} /0.48Ω | — | — | — |
| | — | — | — | — | — | — | 33V _{DC} /0.41Ω | — | — | — |
| 1.100 | — | 6V _{DC} /0.16Ω* | 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 | — | 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 | — | — |
| 1.900 | — | — | — | — | — | — | — | — | 16V _{DC} /0.08Ω | — |
| 2.000 | — | — | 6V _{DC} /0.072Ω | 6V _{DC} /0.06Ω | 8V _{DC} /0.07Ω | 6V _{DC} /0.10Ω | — | 15V _{DC} /0.125Ω | — | — |
| 2.500 | — | — | — | — | — | — | — | 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 | — | — | — |

* Data is preliminary

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

| | | Maximum Ambient Temperature | | | | | | | | | | | |
|-------------------------------|-------------------|-----------------------------|------|------|------|------|------|------|------|------|------|-------|---|
| Part Number | -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 1608 mm/0603 mils | | | | | | | | | | | | | |
| NEW | femtoSMDC005F | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 | — |
| NEW | femtoSMDC008F | 0.13 | 0.11 | 0.10 | 0.08 | 0.08 | 0.07 | 0.06 | 0.06 | 0.05 | 0.04 | 0.04 | — |
| NEW | femtoSMDC010F | 0.16 | 0.14 | 0.12 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | — |
| NEW | 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 | — |
| NEW | femtoSMDC020F | 0.30 | 0.27 | 0.24 | 0.20 | 0.20 | 0.17 | 0.16 | 0.14 | 0.12 | 0.11 | 0.10 | — |
| NEW | 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 2012 mm/0805 mils | | | | | | | | | | | | | |
| NEW | picoSMDC010S | 0.17 | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.05 | — |
| NEW | 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 | — |
| NEW | picoSMDC050S | 0.70 | 0.62 | 0.55 | 0.55 | 0.50 | 0.43 | 0.38 | 0.33 | 0.30 | 0.28 | 0.26 | — |
| coming soon | picoSMDC075S* | 1.17 | 1.05 | 0.94 | 0.81 | 0.75 | 0.68 | 0.62 | 0.57 | 0.50 | 0.44 | 0.41 | — |
| coming soon | picoSMDC110S* | 1.61 | 1.46 | 1.21 | 1.15 | 1.10 | 0.94 | 0.84 | 0.75 | 0.72 | 0.68 | 0.64 | — |
| nanoSMDC Series | | | | | | | | | | | | | |
| Size 3216 mm/1206 mils | | | | | | | | | | | | | |
| | 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 | — |
| NEW | 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 3225 mm/1210 mils | | | | | | | | | | | | | |
| | 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 4532 mm/1812 mils | | | | | | | | | | | | | |
| | 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 | — |
| | miniSMDC100F | 1.60 | 1.45 | 1.28 | 1.10 | 1.07 | 0.92 | 0.83 | 0.71 | 0.66 | 0.57 | 0.52 | — |

* Data is preliminary

**Table S2 Thermal Derating for 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 4532 mm/1812 mils | | | | | | | | | | | | |
| 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 | — |
| 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 | — |
| miniSMDE Series | | | | | | | | | | | | |
| Size 11550 mm/4420 mils | | | | | | | | | | | | |
| miniSMDE190F | 3.16 | 2.74 | 2.20 | 1.90 | 1.74 | 1.48 | 1.27 | 1.10 | 0.80 | 0.50 | 0.35 | — |
| midSMD Series | | | | | | | | | | | | |
| Size 5050 mm/2018 mils | | | | | | | | | | | | |
| 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 | — |
| SMD Series | | | | | | | | | | | | |
| Size 7555 mm/2920 mils | | | | | | | | | | | | |
| 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 | — |
| 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 8763 mm/3425 mils | | | | | | | | | | | | |
| 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 Surface-mount Devices

- A = femtoSMD / picoSMD / nanoSMD / microSMD / miniSMD / decaSMD and SMD**
- B = miniSMDE190F**
- C = SMDH120 and SMDH160**

Figure S1

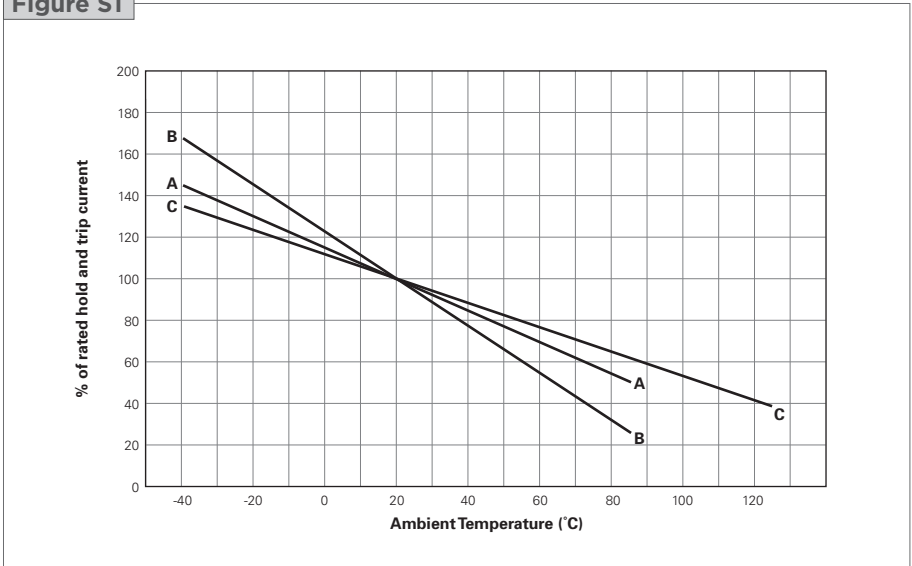


Table S3 Electrical Characteristics for Surface-mount Devices at Room Temperature

| 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 1608 mm/0603 mils | | | | | | | | | | |
| NEW femtoSMDC005F | 0.05 | 0.15 | 15 | 40 | 0.50 | 0.50 | 0.10 | 3.80 | 30.00 | S2 |
| NEW femtoSMDC008F | 0.08 | 0.20 | 12 | 40 | 0.50 | 0.60 | 0.10 | 2.80 | 14.00 | S2 |
| NEW femtoSMDC010F | 0.10 | 0.25 | 12 | 40 | 0.50 | 0.70 | 0.10 | 1.70 | 8.00 | S2 |
| NEW 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 |
| NEW femtoSMDC020F | 0.20 | 0.45 | 9 | 40 | 0.50 | 2.00 | 0.10 | 0.70 | 3.00 | S2 |
| NEW femtoSMDC035F | 0.35 | 0.70 | 6 | 40 | 0.50 | 3.50 | 0.10 | 0.28 | 1.00 | S2 |
| picoSMDC Series | | | | | | | | | | |
| Size 2012 mm/0805 mils | | | | | | | | | | |
| NEW picoSMDC010S | 0.10 | 0.30 | 15 | 100 | 0.50 | 0.50 | 0.60 | 1.50 | 11.00 | S2 |
| NEW 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 |
| NEW picoSMDC050S | 0.50 | 1.00 | 6 | 100 | 0.50 | 8.00 | 0.10 | 0.15 | 0.80 | S2 |
| coming soon picoSMDC075S* | 0.75 | 1.72 | 6 | 40 | 0.60 | 8.00 | 0.10 | 0.10 | 0.31 | S2 |
| coming soon picoSMDC110S* | 1.10 | 2.10 | 6 | 40 | 0.60 | 8.00 | 0.20 | 0.05 | 0.16 | S2 |
| nanoSMDC Series | | | | | | | | | | |
| Size 3216 mm/1206 mils | | | | | | | | | | |
| 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 |
| NEW 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 |

* Data is preliminary

Table S3 Electrical Characteristics for 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 3225 mm/1210 mils | | | | | | | | | | |
| 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 4532 mm/1812 mils | | | | | | | | | | |
| 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 |
| 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 |
| 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 |
| miniSMDE Series | | | | | | | | | | |
| Size 11550 mm/4420 mils | | | | | | | | | | |
| miniSMDE190F | 1.90 | 3.80 | 16 | 100 | 1.50 | 10.00 | 2.00 | 0.024 | 0.08 | S2 |
| midSMD Series | | | | | | | | | | |
| Size 5050 mm/2018 mils | | | | | | | | | | |
| 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 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 7555 mm/2920 mils | | | | | | | | | | |
| 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 |
| 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 8763 mm/3425 mils | | | | | | | | | | |
| 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 |

Figure S2-S4 Dimension Figures for Surface-mount Devices

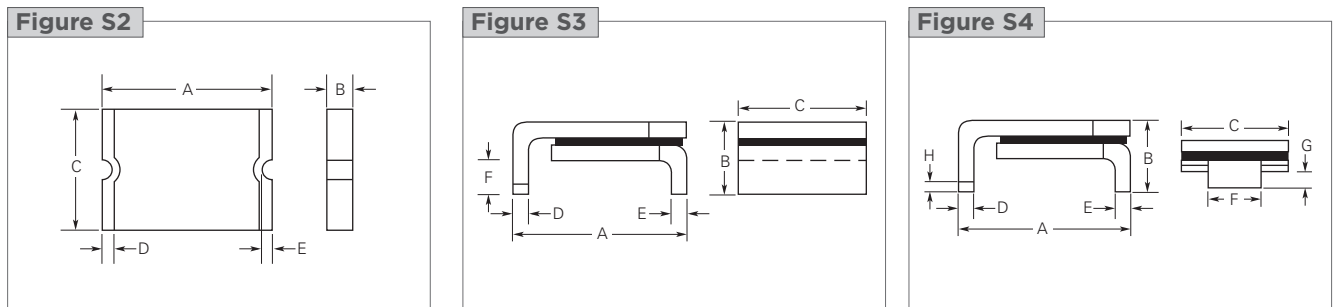


Table S4 Dimensions for Surface-mount Devices in Millimeters (Inches)

| Part Number | A | | B | | C | | D | | E | | F | | G | | H | | Figure |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|------|------|------|------|------|--------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | |
| femtoSMDC Series | | | | | | | | | | | | | | | | | |
| Size 1608 mm/0603 mils | | | | | | | | | | | | | | | | | |
| NEW 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) | — | — | — | — | — | — | — | |
| NEW 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) | — | — | — | — | — | — | — | |
| NEW 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) | — | — | — | — | — | — | — | |
| NEW 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) | — | — | — | — | — | — | — | |
| NEW 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) | — | — | — | — | — | — | — | |
| NEW femtoSMDC035F | 1.40 | 1.80 | 0.55 | 0.95 | 0.60 | 1.00 | 0.10 | 0.50 | 0.075 | — | — | — | — | — | — | — | S2 |
| | (0.055) | (0.071) | (0.021) | (0.037) | (0.023) | (0.039) | (0.004) | (0.020) | (0.003) | — | — | — | — | — | — | — | |

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Table S4 Dimensions for 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 2012 mm/0805 mils | | | | | | | | | | | | | | | | |
| NEW 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 |
| NEW 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 |
| NEW 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 |
| coming soon picoSMDC075S* | 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 |
| coming soon picoSMDC110S* | 2.00 (0.079) | 2.20 (0.087) | 0.71 (0.028) | 1.04 (0.041) | 1.30 (0.051) | 1.50 (0.059) | 0.25 (0.010) | 0.75 (0.030) | 0.076 (0.003) | — | — | — | — | — | — | S2 |
| nanoSMDC Series | | | | | | | | | | | | | | | | |
| Size 3216 mm/1206 mils | | | | | | | | | | | | | | | | |
| 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 |
| NEW 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 3225 mm/1210 mils | | | | | | | | | | | | | | | | |
| 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 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 4532 mm/1812 mils | | | | | | | | | | | | | | | | |
| 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 |
| 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 |
| 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 |
| miniSMDE Series | | | | | | | | | | | | | | | | |
| Size 11550 mm/4420 mils | | | | | | | | | | | | | | | | |
| miniSMDE190F | 11.15 (0.439) | 11.51 (0.453) | 0.33 (0.013) | 0.53 (0.021) | 4.83 (0.190) | 5.33 (0.210) | 0.51 (0.020) | 1.02 (0.040) | 0.381 (0.015) | — | — | — | — | — | — | S2 |

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

Cont'd

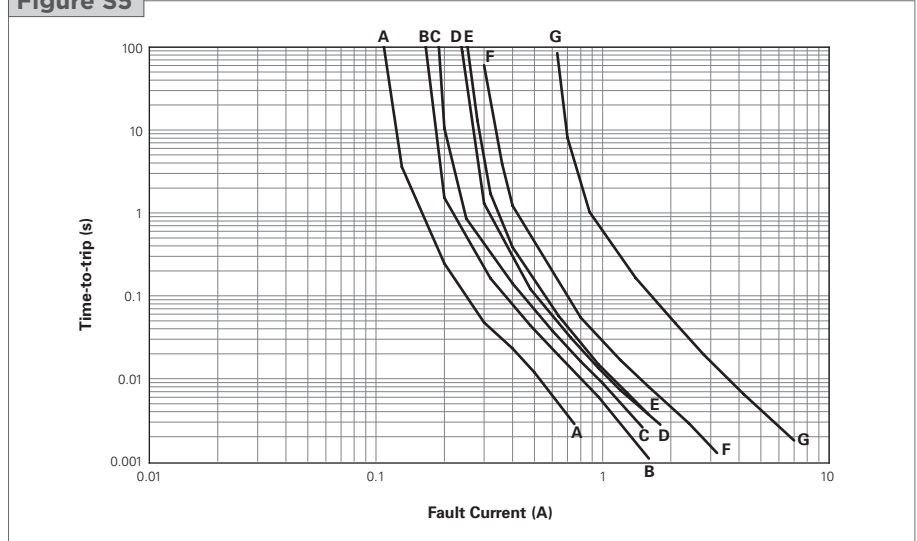
| Part Number | A | | B | | C | | D | | E | | F | | G | | H | Figure |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | |
| midSMD Series | | | | | | | | | | | | | | | | |
| Size 5050 mm/2018 mils | | | | | | | | | | | | | | | | |
| 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 7555 mm/2920 mils | | | | | | | | | | | | | | | | |
| 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 |
| 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 8763 mm/3425 mils | | | | | | | | | | | | | | | | |
| 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 |

Figure 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

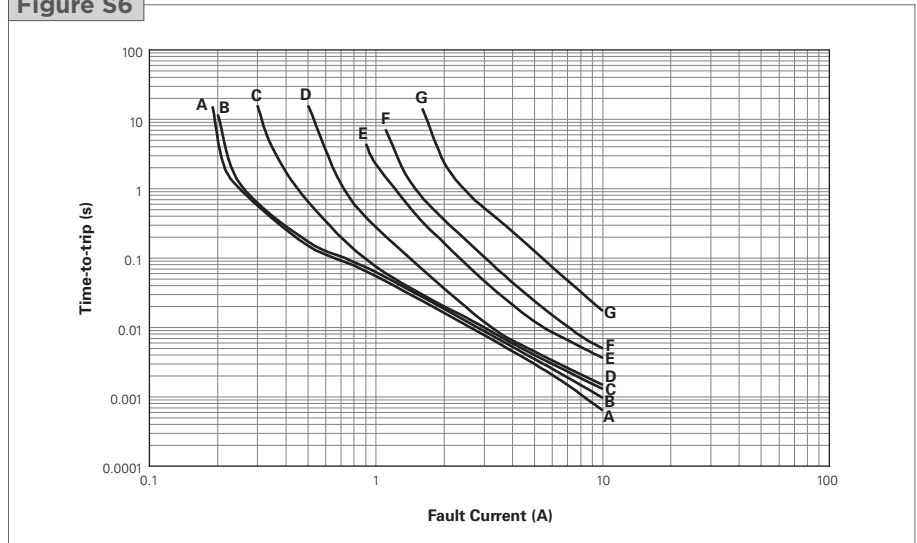


picoSMDCxxxS

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

* Data is preliminary

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

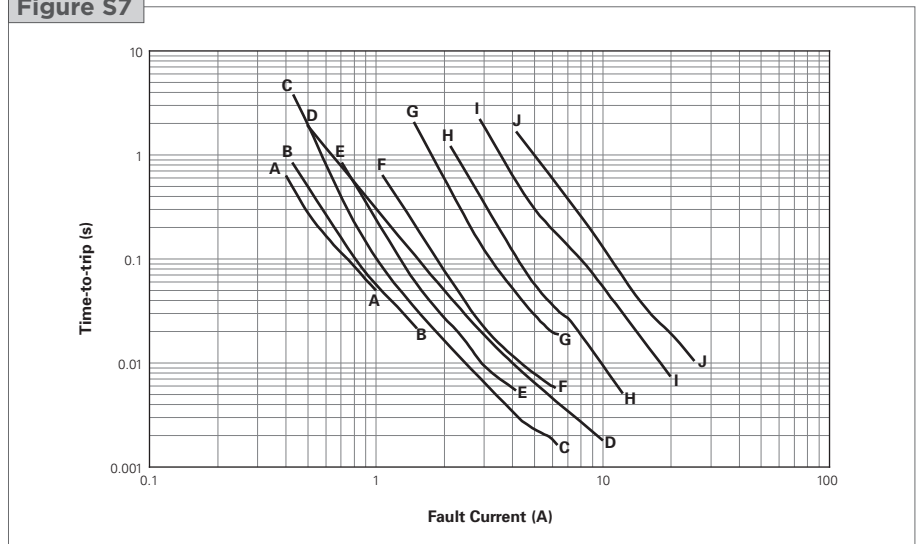
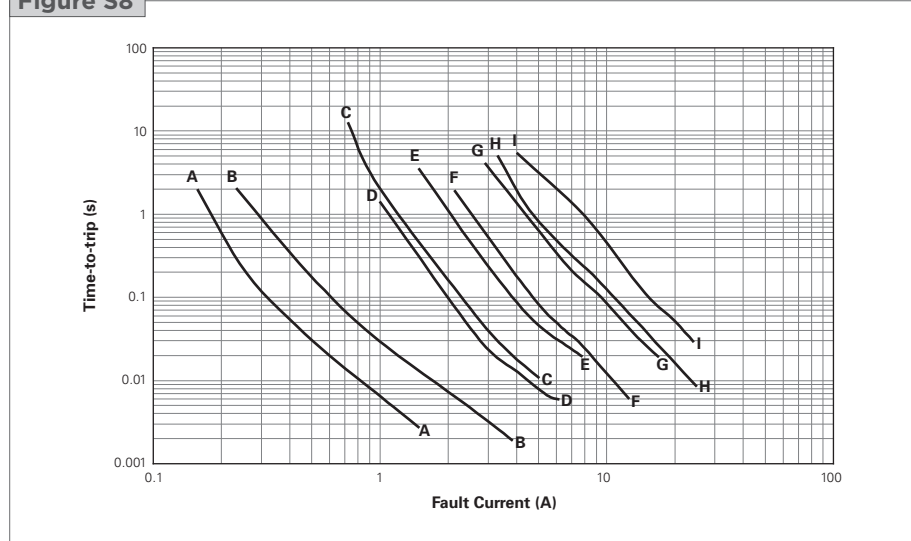


Figure S5-S12 Typical Time-to-trip Curves at 20°C for Surface-mount Devices

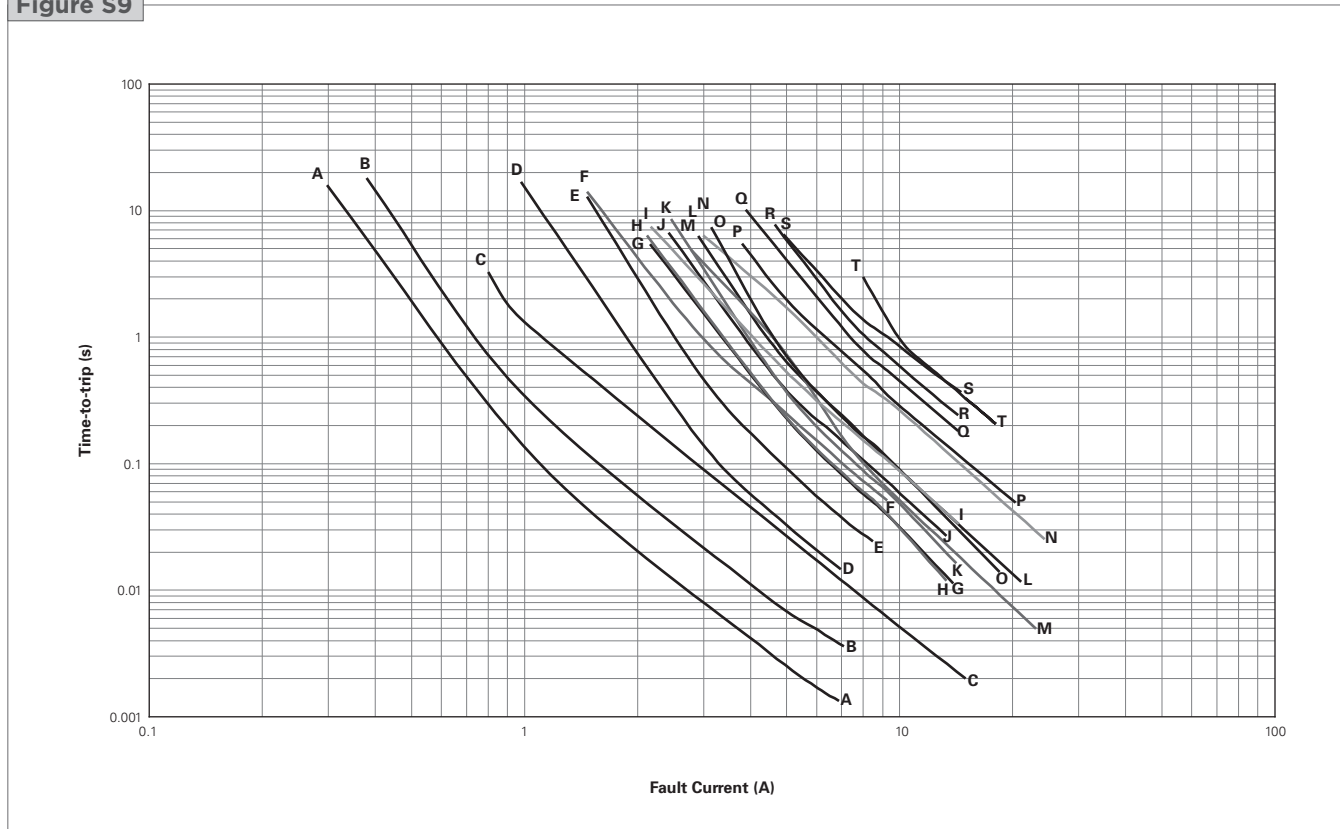
Cont'd

microSMDxxxF

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

Figure S8

miniSMDCxxxF and miniSMDExxxF

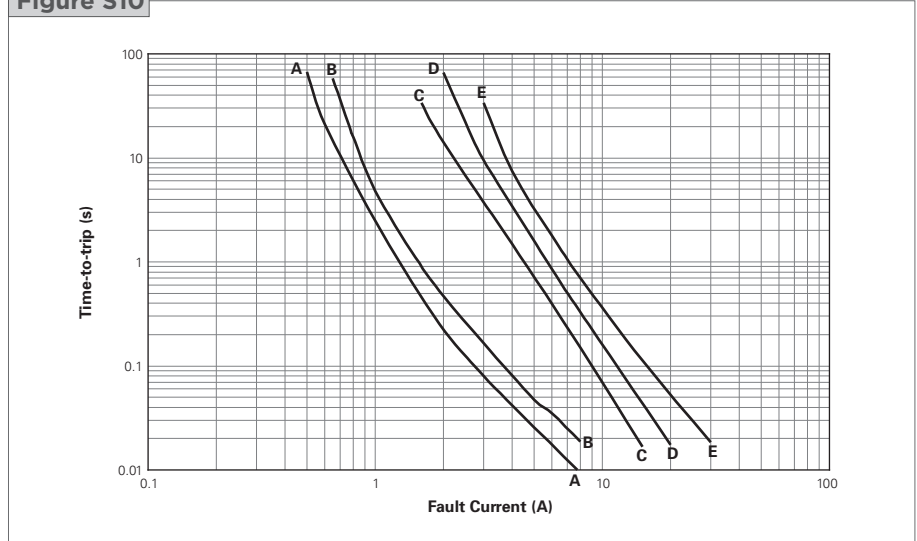
- | | | |
|--------------------------------|-----------------------------------|---|
| A = miniSMDC010F, miniSMDC014F | H = miniSMDC110F/16 | O = miniSMDC160F |
| B = miniSMDC020F | I = miniSMDC110F/24 | P = miniSMDE190F |
| C = miniSMDC030F | J = miniSMDC125F | Q = miniSMDC200F |
| D = miniSMDC050F | K = miniSMDC125F/16 | R = miniSMDC260F |
| E = miniSMDC075F | L = miniSMDC150F, miniSMDC150F/12 | S = miniSMDC260F/12, miniSMDC260F/13.2, miniSMDC260F/16 |
| F = miniSMDC075F/24 | M = miniSMDC150F/16 | T = miniSMDC300F |
| G = miniSMDC100F, miniSMDC110F | N = miniSMDC150F/24 | |

Figure S9


midSMD

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

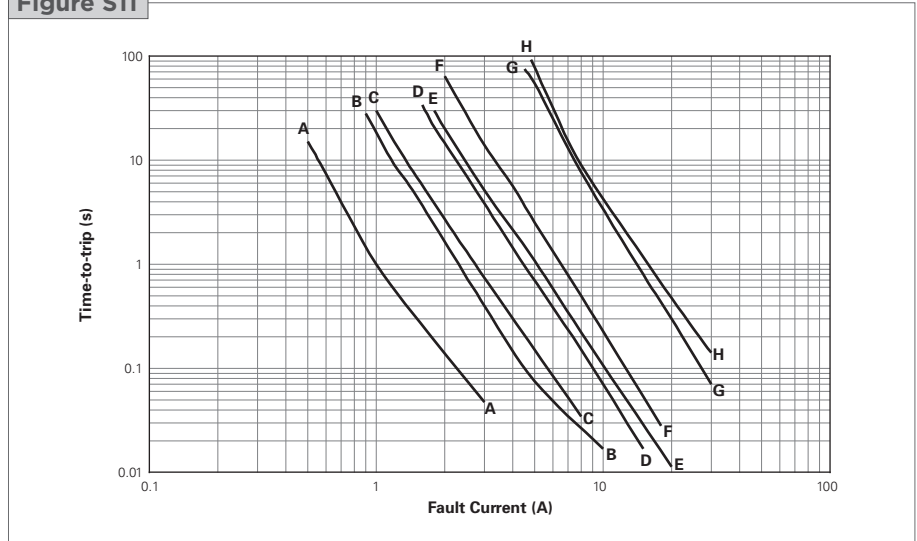
Figure S10



SMDxxxF

- A = SMD030F
- B = SMD050F
- C = SMD075F, SMD075F/60
- D = SMD100F, SMD100F/33
- E = SMDH120
- F = SMD125F
- G = SMD260F
- H = SMD300F, SMD300F/15

Figure S11



SMD2xxxF

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

Figure S12

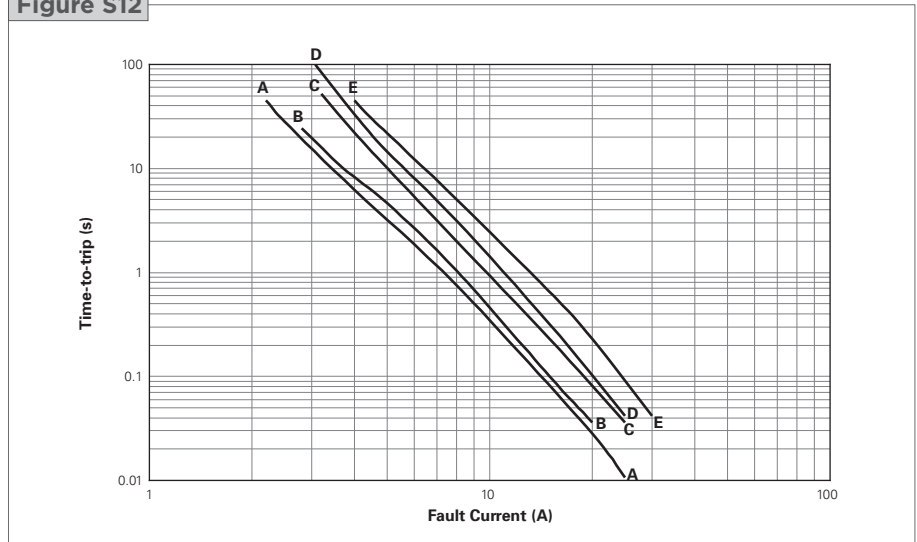


Table S5 Physical Characteristics and Environmental Specifications for Surface-mount Devices
 Operating temperature range -40°C to 85°C, -40°C to 125°C for SMDH120 and SMDH160

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 |
| 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 sec. |
| 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 | Raychem PS300, Section 5.3.2 | 60°C, 1000 hours | ±3% typical |
| | | 85°C, 1000 hours | ±5% typical |
| Humidity aging | Raychem PS300, Section 5.3.1 | 85°C, 85% RH, 100 hours | ±1.2% typical |
| Thermal shock | MIL-STD-202, Method 107G | 85°C, -40°C (20 times) | -33% typical |
| | | 125°C, -55°C (10 times) | -33% typical |
| Vibration | MIL-STD-883C | per MIL-STD-883C | No change |
| Solvent resistance | Raychem PS300, Section 5.2.2 | Freon | No change |
| | | Trichloroethane | No change |
| | | Hydrocarbons | No change |

Table S6 Packaging and Marking Information for Surface-mount Devices

| Part Number | Tape & 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 1608 mm/0603 mils | | | | | | | |
| NEW femtoSMDC005F | 4,000 | 20,000 | A | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| NEW femtoSMDC008F | 4,000 | 20,000 | T | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| NEW femtoSMDC010F | 4,000 | 20,000 | B | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| NEW femtoSMDC012F | 4,000 | 20,000 | C | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| femtoSMDC016F | 4,000 | 20,000 | E | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| NEW femtoSMDC020F | 4,000 | 20,000 | F | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| NEW femtoSMDC035F | 4,000 | 20,000 | K | 0.80 (0.032) | 0.60 (0.024) | 0.80 (0.032) | UL, CSA |
| picoSMDC Series | | | | | | | |
| Size 2012 mm/0805 mils | | | | | | | |
| NEW picoSMDC010S | 3,000 | 15,000 | C | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | UL |
| NEW picoSMDC012S | 4,000 | 20,000 | F | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | UL, CSA |
| picoSMDC020S | 4,000 | 20,000 | H | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | UL, CSA |
| picoSMDC035S | 4,000 | 20,000 | I | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | UL, CSA |
| NEW picoSMDC050S | 3,000 | 15,000 | K | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | UL, CSA |
| coming soon picoSMDC075S* | 3,000 | 15,000 | M | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | Pending |
| coming soon picoSMDC110S* | 3,000 | 15,000 | S | 1.50 (0.060) | 1.00 (0.039) | 1.20 (0.047) | Pending |
| nanoSMDC Series | | | | | | | |
| Size 3216 mm/1206 mils | | | | | | | |
| 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 |
| NEW nanoSMDC025F | 3,000 | 15,000 | C | 1.60 (0.063) | 1.00 (0.039) | 2.00 (0.079) | UL, CSA |
| 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 |

* Data is preliminary

Table S6 Packaging and Marking Information for Surface-mount Devices

Cont'd

| Part Number | Tape & 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 3225 mm/1210 mils | | | | | | | |
| 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 4532 mm/1812 mils | | | | | | | |
| miniSMDC010F | 2,000 | 10,000 | 10 | 3.15 (0.124) | 1.68 (0.066) | 3.10 (0.122) | UL, CSA |
| 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 |
| 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 |
| 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 |
| 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 |
| miniSMDE Series | | | | | | | |
| Size 11550 mm/4420 mils | | | | | | | |
| miniSMDE190F | 5,000 | 20,000 | 19 | 4.75 (0.187) | 1.45 (0.057) | 9.57 (0.377) | UL, CSA, TÜV |
| midSMD Series | | | | | | | |
| Size 5050 mm/2018 mils | | | | | | | |
| 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 Surface-mount Devices

Cont'd

| Part Number | Tape & 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 7555 mm/2920 mils | | | | | | | |
| 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 |
| 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 |
| SMD2 Devices | | | | | | | |
| Size 8763 mm/3425 mils | | | | | | | |
| 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 Surface-mount Devices

Agency Recognition for 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) |

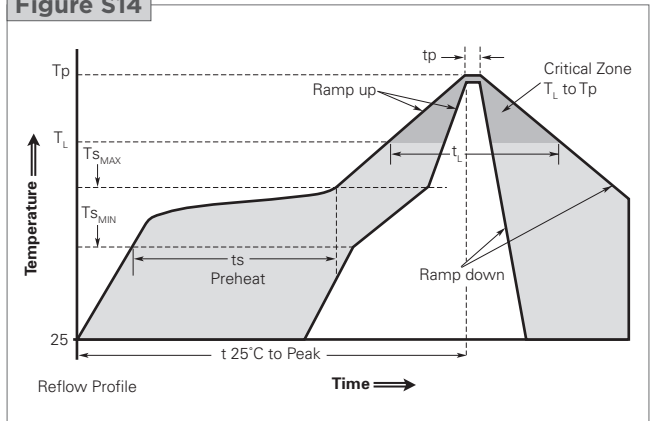
Solder Reflow and Rework Recommendation for Surface-mount Devices

Classification Reflow Profiles

| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average ramp up rate (Ts_{MAX} to Tp) | 3°C/second max. |
| Preheat | |
| • Temperature min. (Ts _{MIN}) | 150°C |
| • Temperature max. (Ts _{MAX}) | 200°C |
| • Time (ts _{MIN} to ts _{MAX}) | 60-120 seconds |
| Time maintained above: | |
| • Temperature (T _L) | 217°C |
| • Time (t _L) | 60-150 seconds |
| Peak/Classification temperature (Tp) | 260°C |
| Time within 5°C of actual peak temperature | |
| Time (tp) | 30 seconds max. |
| Ramp down rate | 3°C/second max. |
| Time 25°C to peak temperature | 8 minutes 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 (0.010 inch)
- Devices can be cleaned using standard methods and aqueous solvents.
- We believe 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 (in Millimeters)

| Description | femtoSMDC | picoSMDC | nanoSMDC | microSMD | miniSMDC and decaSMDC050F/60 | miniSMDE190 | midSMD except decaSMDC050F/60 | SMD | SMD2 |
|---------------------|-------------|-------------|-------------|-------------|------------------------------------|--------------|-------------------------------------|----------------|----------------|
| | EIA 481-1 | EIA 481-1 | EIA 481-1 | EIA 481-1 | EIA 481-1 | EIA 481-2 | EIA 481-2 | EIA 481-2 | EIA 481-2 |
| W | 8.0 ± 0.30 | 8.0 ± 0.30 | 8.0 ± 0.30 | 8.0 ± 0.30 | 12.0 ± 0.30 | 24.0 ± 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 | 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 | 8.0 ± 0.10 | 12.0 ± 0.10 |
| P ₂ | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.05 | 2.0 ± 0.10 | 2.0 ± 0.10 | 2.0 ± 0.10 | 2.0 ± 0.10 |
| A ₀ | Table S8 | Table S8 | 1.95 ± 0.10 | 2.9 ± 0.10 | Table S8 | 5.70 ± 0.10 | 5.11 ± 0.15 | 5.6 ± 0.23 | 6.9 ± 0.23 |
| B ₀ | Table S8 | Table S8 | Table S8 | 3.50 ± 0.10 | Table S8 | 11.90 ± 0.10 | 5.6 ± 0.23 | 8.1 ± 0.15 | 9.6 ± 0.15 |
| B ₁ max. | 4.35 | 4.35 | 4.35 | 4.35 | 8.2 | 20.1 | 12.1 | 12.1 | 12.1 |
| D ₀ | 1.55 ± .05 | 1.55 ± .05 | 1.55 ± .05 | 1.55 ± .05 | 1.5 + 0.10/-00 | 1.55 ± .05 | 1.5 + 0.10/-00 | 1.5 + 0.10/-00 | 1.5 + 0.10/-00 |
| F | 3.50 ± 0.05 | 3.50 ± 0.05 | 3.50 ± 0.05 | 3.50 ± 0.05 | 5.50 ± 0.05 | 11.50 ± 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 | 1.75 ± 0.10 |
| E ₂ min. | 6.25 | 6.25 | 6.25 | 6.25 | 10.25 | 22.25 | 14.25 | 14.25 | 14.25 |
| T max. | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| T ₁ max. | 0.1 | 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 | 0.95 ± 0.10 | 1.8 ± 0.15 | 3.2 ± 0.15 | 3.4 ± 0.15 |
| Leader min. | 390 | 390 | 390 | 390 | 390 | 400 | 400 | 400 | 400 |
| Trailer min. | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |

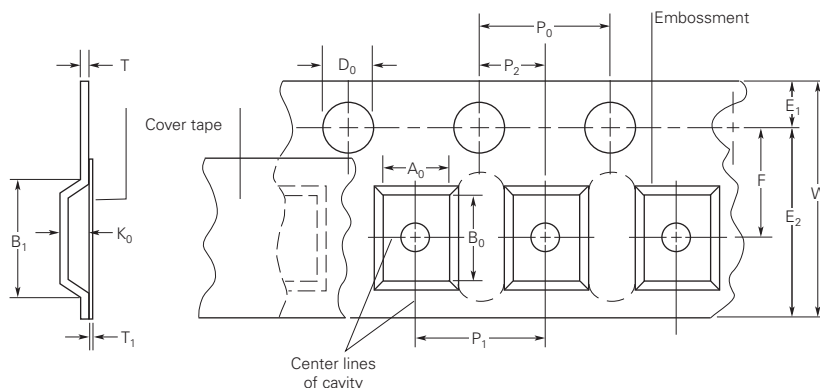
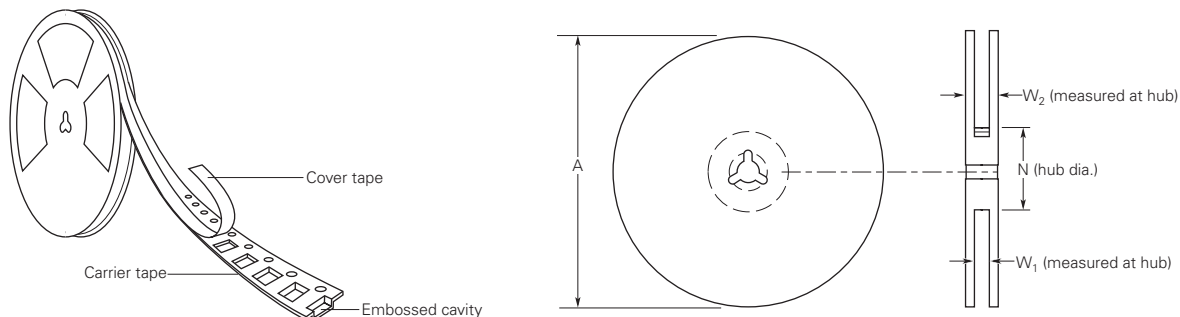
Table S8 Tape and Reel Specifications for Surface-mount Devices (in Millimeters)

| | femtoSMDC005F femtoSMDC008F femtoSMDC010F femtoSMDC035F | femtoSMDC012F femtoSMDC016F femtoSMDC020F | picoSMDC012S picoSMDC020S picoSMDC035S | picoSMDC010S picoSMDC050S picoSMDC075S picoSMDC110S | All nanoSMDC series except nanoSMDC012F nanoSMDC016F nanoSMDC200F | nanoSMDC012F nanoSMDC016F nanoSMDC200F |
|----------------|--|---|--|--|--|--|
| A ₀ | 1.00 ± 0.1 | 1.00 ± 0.1 | 1.55 ± 0.1 | 1.60 ± 0.1 | 1.95 ± 0.1 | 1.95 ± 0.1 |
| B ₀ | 1.85 ± 0.1 | 1.85 ± 0.1 | 2.50 ± 0.1 | 2.45 ± 0.1 | 3.50 +0.1/-0.08 | 3.5 ± 0.1 |
| K ₀ | 0.90 ± 0.1 | 0.80 ± 0.1 | 0.86 ± 0.1 | 1.35 ± 0.1 | 0.89 ± 0.1 | 1.27 ± 0.1 |

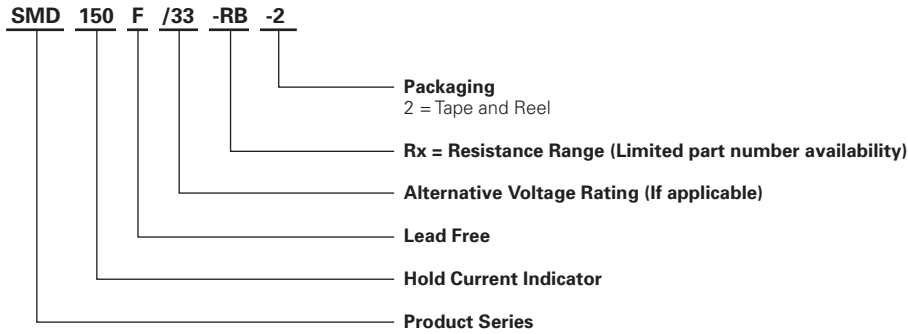
| | All microSMD series except microSMD200F | microSMD200F | miniSMDC014F~075F miniSMDC100F~110F/16 miniSMDC125F~150F/16 miniSMDC160F~260F | miniSMDC075F/24 miniSMDC110F/24 miniSMDC260F/12 miniSMDC260F/13.2 miniSMDC260F/16 | miniSMDC150F/24 | decaSMDC050F/60 |
|----------------|--|--------------|--|---|-----------------|-----------------|
| A ₀ | 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 | 4.95 ± 0.1 | 4.9 ± 0.1 | 4.9 ± 0.1 | 5.4 ± 0.1 |
| K ₀ | 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 Surface-mount Devices (in Millimeters)

| | femto/pico/nano/microSMD | miniSMDC | miniSMDE190 | midSMD | SMD | SMD2 |
|---------------------|--------------------------|------------------|------------------|------------------|------------------|------------------|
| A max. | 185 | 185 | 330 | 330 | 330 | 330 |
| N min. | 50 | 50 | 60 | 50 | 50 | 50 |
| W ₁ | 8.4 + 1.5/-0.00 | 12.4 + 2.0/-0.00 | 24.4 + 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 | 30.4 | 22.4 | 22.4 | 22.4 |

Figure S15 EIA Referenced Taped Component Dimensions for Surface-mount Devices

Figure S16 EIA Referenced Reel Dimensions for Surface-mount Devices


Part Numbering System for 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.