

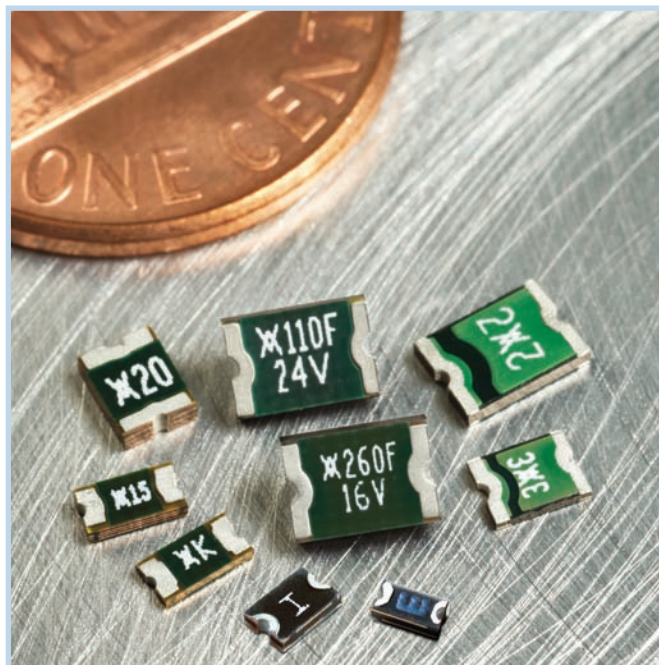


## PolySwitch Resettable Devices Surface-mount Devices

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.



### 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<br>Overvoltage | PolySwitch Resettable Devices - Key Selection Criteria |                   |   |
|-----------------------------|----------------------|----------------------------|--|-------------------|---|
|                             |                      |                            | Small Size   | Low Resistance    | Fast Time-to-trip<br>(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                  |
|-------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| <b>Size mm</b>          | 1608                      | 2012                      | 3216                       | 3225                       | 4532                        | 5050                     | 7555                     | 8763                      | 11550                    | 5050                     |
| <b>(mils)</b>           | (0603)                    | (0805)                    | (1206)                     | (1210)                     | (1812)                      | (2018)                   | (2920)                   | (3425)                    | (4420)                   | (2018)                   |
| <b>Hold Current (A)</b> |                           |                           |                            |                            |                             |                          |                          |                           |                          |                          |
| 0.050                   | 15V <sub>DC</sub> /30.00Ω | —                         | —                          | 30V <sub>DC</sub> /50Ω     | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.080                   | 12V <sub>DC</sub> /14.00Ω | —                         | —                          | —                          | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.100                   | 12V <sub>DC</sub> /8.00Ω  | 15V <sub>DC</sub> /11.00Ω | —                          | 30V <sub>DC</sub> /15Ω     | 60V <sub>DC</sub> /12.70Ω   | —                        | —                        | —                         | —                        | —                        |
| 0.120                   | 9V <sub>DC</sub> /5.80Ω   | 15V <sub>DC</sub> /9.00Ω  | 48V <sub>DC</sub> /6.50Ω   | —                          | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.140                   | —                         | —                         | —                          | —                          | 60V <sub>DC</sub> /6.00Ω    | —                        | —                        | —                         | —                        | —                        |
| 0.160                   | 9V <sub>DC</sub> /4.20Ω   | —                         | 48V <sub>DC</sub> /5.00Ω   | —                          | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.200                   | 9V <sub>DC</sub> /3.00Ω   | 9V <sub>DC</sub> /3.20Ω   | 24V <sub>DC</sub> /3.10Ω   | —                          | 30V <sub>DC</sub> /3.30Ω    | —                        | —                        | —                         | —                        | —                        |
| 0.250                   | —                         | —                         | 16V <sub>DC</sub> /2.30Ω   | —                          | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.300                   | —                         | —                         | —                          | —                          | 30V <sub>DC</sub> /1.75Ω    | 60V <sub>DC</sub> /2.30Ω | 60V <sub>DC</sub> /4.80Ω | —                         | —                        | —                        |
| 0.350                   | 6V <sub>DC</sub> /1.00Ω   | 6V <sub>DC</sub> /1.40Ω   | 16V <sub>DC</sub> /1.35Ω   | 6V <sub>DC</sub> /1.30Ω    | —                           | —                        | —                        | —                         | —                        | —                        |
| 0.500                   | —                         | 6V <sub>DC</sub> /0.80Ω   | 13.2V <sub>DC</sub> /0.75Ω | 13.2V <sub>DC</sub> /0.90Ω | 24V <sub>DC</sub> /1.00Ω    | —                        | 60V <sub>DC</sub> /1.40Ω | —                         | —                        | 60V <sub>DC</sub> /1.10Ω |
| 0.750                   | —                         | 6V <sub>DC</sub> /0.31Ω*  | 6V <sub>DC</sub> /0.30Ω    | 6V <sub>DC</sub> /0.40Ω    | 13.2V <sub>DC</sub> /0.45Ω  | —                        | 30V <sub>DC</sub> /1.00Ω | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.29Ω    | —                        | 60V <sub>DC</sub> /1.00Ω | —                         | —                        | —                        |
| 1.000                   | —                         | —                         | —                          | —                          | —                           | 15V <sub>DC</sub> /0.40Ω | 30V <sub>DC</sub> /0.48Ω | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | —                           | —                        | 33V <sub>DC</sub> /0.41Ω | —                         | —                        | —                        |
| 1.100                   | —                         | 6V <sub>DC</sub> /0.16Ω*  | 6V <sub>DC</sub> /0.20Ω    | 6V <sub>DC</sub> /0.21Ω    | 8V <sub>DC</sub> /0.21Ω     | —                        | —                        | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.18Ω    | —                        | —                        | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.18Ω    | —                        | —                        | —                         | —                        | —                        |
| 1.200                   | —                         | —                         | —                          | —                          | —                           | —                        | 16V <sub>DC</sub> /0.34Ω | —                         | —                        | —                        |
| 1.250                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.14Ω     | —                        | 15V <sub>DC</sub> /0.25Ω | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.14Ω    | —                        | —                        | —                         | —                        | —                        |
| 1.500                   | —                         | —                         | 6V <sub>DC</sub> /0.11Ω    | 6V <sub>DC</sub> /0.11Ω    | 6V <sub>DC</sub> /0.11Ω     | 15V <sub>DC</sub> /0.18Ω | —                        | 15V <sub>DC</sub> /0.25Ω  | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 12V <sub>DC</sub> /0.11Ω    | —                        | —                        | 33V <sub>DC</sub> /0.23Ω  | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.11Ω    | —                        | —                        | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 24V <sub>DC</sub> /0.12Ω    | —                        | —                        | —                         | —                        | —                        |
| 1.600                   | —                         | —                         | —                          | —                          | 9V <sub>DC</sub> /0.10Ω     | —                        | —                        | 16V <sub>DC</sub> /0.15Ω  | —                        | —                        |
| 1.750                   | —                         | —                         | —                          | 6V <sub>DC</sub> /0.08Ω    | —                           | —                        | —                        | —                         | —                        | —                        |
| 1.850                   | —                         | —                         | —                          | —                          | —                           | —                        | —                        | 33V <sub>DC</sub> /0.165Ω | —                        | —                        |
| 1.900                   | —                         | —                         | —                          | —                          | —                           | —                        | —                        | —                         | 16V <sub>DC</sub> /0.08Ω | —                        |
| 2.000                   | —                         | —                         | 6V <sub>DC</sub> /0.072Ω   | 6V <sub>DC</sub> /0.06Ω    | 8V <sub>DC</sub> /0.07Ω     | 6V <sub>DC</sub> /0.10Ω  | —                        | 15V <sub>DC</sub> /0.125Ω | —                        | —                        |
| 2.500                   | —                         | —                         | —                          | —                          | —                           | —                        | —                        | 15V <sub>DC</sub> /0.85Ω  | —                        | —                        |
| 2.600                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.043Ω    | —                        | 6V <sub>DC</sub> /0.075Ω | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 12V <sub>DC</sub> /0.047Ω   | —                        | —                        | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 13.2V <sub>DC</sub> /0.050Ω | —                        | —                        | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | 16V <sub>DC</sub> /0.050Ω   | —                        | —                        | —                         | —                        | —                        |
| 3.000                   | —                         | —                         | —                          | —                          | 6V <sub>DC</sub> /0.036Ω    | —                        | 6V <sub>DC</sub> /0.048Ω | —                         | —                        | —                        |
|                         | —                         | —                         | —                          | —                          | —                           | —                        | 15V <sub>DC</sub> /0.05Ω | —                         | —                        | —                        |

\* 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 |   |
| <b>femtoSMDC Series</b>       |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| <b>Size 1608 mm/0603 mils</b> |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| 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  | — |
| <b>picoSMDC Series</b>        |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| <b>Size 2012 mm/0805 mils</b> |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| 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  | — |
| <b>nanoSMDC Series</b>        |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| <b>Size 3216 mm/1206 mils</b> |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
|                               | nanoSMDC012F      | 0.20                        | 0.17 | 0.15 | 0.13 | 0.12 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.07  | — |
|                               | nanoSMDC016F      | 0.21                        | 0.20 | 0.18 | 0.16 | 0.16 | 0.14 | 0.13 | 0.12 | 0.11 | 0.10 | 0.09  | — |
|                               | nanoSMDC020F      | 0.34                        | 0.30 | 0.26 | 0.22 | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 | 0.09 | 0.08  | — |
| 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  | — |
| <b>microSMD Series</b>        |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| <b>Size 3225 mm/1210 mils</b> |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
|                               | microSMD005F      | 0.08                        | 0.07 | 0.06 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02  | — |
|                               | microSMD010F      | 0.15                        | 0.13 | 0.12 | 0.10 | 0.10 | 0.09 | 0.08 | 0.06 | 0.06 | 0.05 | 0.05  | — |
|                               | microSMD035F      | 0.51                        | 0.46 | 0.40 | 0.35 | 0.34 | 0.30 | 0.27 | 0.24 | 0.22 | 0.19 | 0.18  | — |
|                               | microSMD050F      | 0.76                        | 0.66 | 0.58 | 0.50 | 0.48 | 0.42 | 0.38 | 0.35 | 0.29 | 0.25 | 0.23  | — |
|                               | microSMD075F      | 1.10                        | 0.97 | 0.86 | 0.75 | 0.72 | 0.64 | 0.58 | 0.55 | 0.47 | 0.42 | 0.39  | — |
|                               | microSMD110F      | 1.60                        | 1.42 | 1.26 | 1.10 | 1.06 | 0.94 | 0.86 | 0.80 | 0.70 | 0.62 | 0.58  | — |
|                               | microSMD150F      | 2.30                        | 2.02 | 1.76 | 1.50 | 1.43 | 1.24 | 1.11 | 1.00 | 0.85 | 0.72 | 0.65  | — |
|                               | microSMD175F      | 2.80                        | 2.45 | 2.10 | 1.75 | 1.70 | 1.55 | 1.45 | 1.35 | 1.25 | 1.15 | 1.10  | — |
|                               | microSMD200F      | 2.60                        | 2.44 | 2.35 | 2.00 | 1.96 | 1.78 | 1.67 | 1.50 | 1.45 | 1.15 | 1.10  | — |
| <b>miniSMDC Series</b>        |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
| <b>Size 4532 mm/1812 mils</b> |                   |                             |      |      |      |      |      |      |      |      |      |       |   |
|                               | miniSMDC010F      | 0.17                        | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04  | — |
|                               | miniSMDC014F      | 0.23                        | 0.20 | 0.17 | 0.14 | 0.13 | 0.11 | 0.10 | 0.09 | 0.07 | 0.06 | 0.05  | — |
|                               | miniSMDC020F      | 0.30                        | 0.27 | 0.23 | 0.20 | 0.19 | 0.17 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09  | — |
|                               | miniSMDC030F      | 0.49                        | 0.44 | 0.39 | 0.32 | 0.30 | 0.27 | 0.24 | 0.22 | 0.18 | 0.16 | 0.14  | — |
|                               | miniSMDC050F      | 0.59                        | 0.57 | 0.55 | 0.50 | 0.48 | 0.45 | 0.43 | 0.35 | 0.30 | 0.25 | 0.23  | — |
|                               | miniSMDC075F      | 1.10                        | 0.99 | 0.87 | 0.75 | 0.72 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.35  | — |
|                               | miniSMDC075F/24   | 1.50                        | 1.25 | 1.00 | 0.75 | 0.73 | 0.65 | 0.60 | 0.55 | 0.50 | 0.45 | 0.43  | — |
|                               | 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)]**

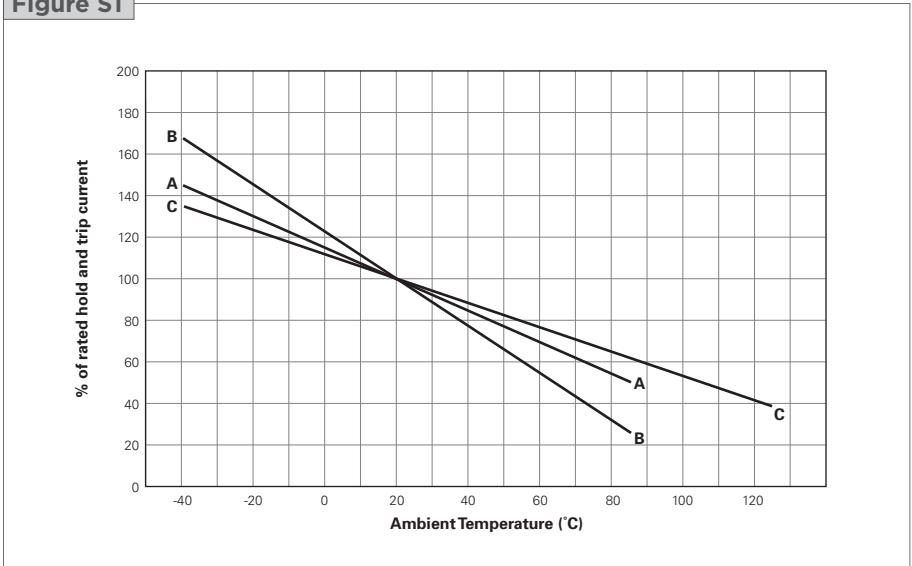
Cont'd

| 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 |
| <b>miniSMDC Series</b>         |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 4532 mm/1812 mils</b>  |                             |       |      |      |      |      |      |      |      |      |      |       |
| miniSMDC110F                   | 1.60                        | 1.45  | 1.28 | 1.10 | 1.07 | 0.92 | 0.83 | 0.71 | 0.66 | 0.57 | 0.52 | —     |
| miniSMDC110F/16                | 1.68                        | 1.49  | 1.30 | 1.10 | 1.05 | 0.92 | 0.83 | 0.75 | 0.64 | 0.55 | 0.50 | —     |
| miniSMDC110F/24                | 2.00                        | 1.70  | 1.40 | 1.10 | 1.06 | 0.95 | 0.88 | 0.80 | 0.73 | 0.65 | 0.61 | —     |
| miniSMDC125F                   | 2.00                        | 1.69  | 1.47 | 1.25 | 1.17 | 1.03 | 0.92 | 0.90 | 0.69 | 0.58 | 0.53 | —     |
| miniSMDC125F/16                | 2.00                        | 1.69  | 1.47 | 1.25 | 1.17 | 1.03 | 0.92 | 0.90 | 0.69 | 0.58 | 0.53 | —     |
| miniSMDC150F                   | 2.30                        | 2.05  | 1.77 | 1.50 | 1.44 | 1.23 | 1.09 | 0.95 | 0.82 | 0.68 | 0.61 | —     |
| miniSMDC150F/12                | 2.40                        | 2.10  | 1.80 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC150F/16                | 2.40                        | 2.10  | 1.80 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC150F/24                | 2.10                        | 1.90  | 1.70 | 1.50 | 1.44 | 1.25 | 1.13 | 1.00 | 0.88 | 0.75 | 0.69 | —     |
| miniSMDC160F                   | 2.50                        | 2.19  | 1.89 | 1.60 | 1.53 | 1.31 | 1.16 | 1.10 | 0.95 | 0.79 | 0.71 | —     |
| miniSMDC200F                   | 2.60                        | 2.44  | 2.22 | 2.00 | 1.96 | 1.78 | 1.67 | 1.50 | 1.45 | 1.34 | 1.29 | —     |
| miniSMDC260F                   | 3.40                        | 3.16  | 2.80 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/12                | 3.40                        | 3.16  | 3.00 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/13.2              | 3.40                        | 3.16  | 3.00 | 2.60 | 2.54 | 2.32 | 2.18 | 2.00 | 1.90 | 1.76 | 1.69 | —     |
| miniSMDC260F/16                | 3.50                        | 3.20  | 3.00 | 2.60 | 2.53 | 2.30 | 2.15 | 2.00 | 1.85 | 1.70 | 1.63 | —     |
| miniSMDC300F                   | 4.13                        | 3.75  | 3.33 | 3.02 | 3.00 | 2.70 | 2.54 | 2.35 | 2.22 | 2.06 | 1.98 | —     |
| <b>miniSMDE Series</b>         |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 11550 mm/4420 mils</b> |                             |       |      |      |      |      |      |      |      |      |      |       |
| miniSMDE190F                   | 3.16                        | 2.74  | 2.20 | 1.90 | 1.74 | 1.48 | 1.27 | 1.10 | 0.80 | 0.50 | 0.35 | —     |
| <b>midSMD Series</b>           |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 5050 mm/2018 mils</b>  |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD030F-2018                   | 0.48                        | 0.42  | 0.35 | 0.30 | 0.28 | 0.24 | 0.21 | 0.17 | 0.15 | 0.12 | 0.10 | —     |
| decaSMDC050F/60                | 1.00                        | 0.85  | 0.70 | 0.55 | 0.53 | 0.45 | 0.40 | 0.35 | 0.30 | 0.25 | 0.23 | —     |
| SMD100F-2018                   | 1.59                        | 1.43  | 1.20 | 1.10 | 1.03 | 0.94 | 0.85 | 0.72 | 0.69 | 0.61 | 0.57 | —     |
| SMD150F-2018                   | 2.21                        | 1.97  | 1.70 | 1.50 | 1.43 | 1.26 | 1.15 | 1.00 | 0.91 | 0.79 | 0.73 | —     |
| SMD200F-2018                   | 2.81                        | 2.54  | 2.27 | 2.00 | 1.93 | 1.73 | 1.59 | 1.46 | 1.32 | 1.19 | 1.12 | —     |
| <b>SMD Series</b>              |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 7555 mm/2920 mils</b>  |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD030F                        | 0.44                        | 0.39  | 0.32 | 0.30 | 0.28 | 0.26 | 0.23 | 0.19 | 0.18 | 0.17 | 0.15 | —     |
| SMD050F                        | 0.73                        | 0.65  | 0.55 | 0.50 | 0.47 | 0.43 | 0.39 | 0.33 | 0.31 | 0.28 | 0.26 | —     |
| SMD075F                        | 1.11                        | 0.99  | 0.84 | 0.75 | 0.71 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.36 | —     |
| SMD075F/60                     | 1.11                        | 0.99  | 0.84 | 0.75 | 0.71 | 0.63 | 0.57 | 0.49 | 0.45 | 0.39 | 0.36 | —     |
| SMD100F                        | 1.59                        | 1.43  | 1.20 | 1.10 | 1.03 | 0.94 | 0.85 | 0.72 | 0.69 | 0.61 | 0.57 | —     |
| SMD100F/33                     | 1.48                        | 1.35  | 1.20 | 1.10 | 1.06 | 0.98 | 0.91 | 0.83 | 0.79 | 0.73 | 0.69 | —     |
| SMDH120                        | 2.34                        | 1.96  | 1.58 | 1.20 | 1.15 | 1.02 | 0.92 | 0.83 | 0.74 | 0.65 | 0.60 | 0.26  |
| SMD125F                        | 1.89                        | 1.68  | 1.50 | 1.25 | 1.21 | 1.04 | 0.93 | 0.85 | 0.71 | 0.61 | 0.55 | —     |
| SMD260F                        | 3.82                        | 3.41  | 2.90 | 2.60 | 2.45 | 2.19 | 1.99 | 1.70 | 1.58 | 1.38 | 1.28 | —     |
| SMD300F                        | 4.13                        | 3.75  | 3.30 | 3.00 | 2.87 | 2.62 | 2.43 | 2.25 | 2.00 | 1.87 | 1.78 | —     |
| SMD300F/15                     | 4.20                        | 3.80  | 3.30 | 3.00 | 2.90 | 2.62 | 2.43 | 2.25 | 2.00 | 1.87 | 1.78 | —     |
| <b>SMD2 Series</b>             |                             |       |      |      |      |      |      |      |      |      |      |       |
| <b>Size 8763 mm/3425 mils</b>  |                             |       |      |      |      |      |      |      |      |      |      |       |
| SMD150F                        | 2.30                        | 2.04  | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | —     |
| SMD150F/33                     | 2.30                        | 2.04  | 1.80 | 1.50 | 1.45 | 1.23 | 1.10 | 0.99 | 0.83 | 0.70 | 0.63 | —     |
| SMDH160                        | 2.14                        | 1.96  | 1.78 | 1.60 | 1.56 | 1.42 | 1.33 | 1.24 | 1.15 | 1.06 | 1.02 | 0.44  |
| SMD185F                        | 2.54                        | 2.29  | 2.20 | 1.85 | 1.80 | 1.55 | 1.43 | 1.31 | 1.19 | 1.06 | 1.00 | —     |
| SMD200F                        | 3.01                        | 2.67  | 2.30 | 2.00 | 1.90 | 1.66 | 1.50 | 1.30 | 1.16 | 0.99 | 0.91 | —     |
| SMD250F                        | 3.72                        | 3.31  | 2.80 | 2.50 | 2.35 | 2.09 | 1.89 | 1.60 | 1.48 | 1.28 | 1.18 | —     |

**Figure S1 Thermal Derating Curve for 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 <sub>H</sub> (A) | I <sub>T</sub> (A) | V <sub>MAX</sub> (V <sub>DC</sub> ) | I <sub>MAX</sub> (A) | P <sub>D MAX</sub> (W) | Max. Time-to-Trip |      | R <sub>MIN</sub> (Ω) | R <sub>1MAX</sub> (Ω) | Figure for Dimensions |
|-------------------------------|--------------------|--------------------|-------------------------------------|----------------------|------------------------|-------------------|------|----------------------|-----------------------|-----------------------|
|                               |                    |                    |                                     |                      |                        | (A)               | (S)  |                      |                       |                       |
| <b>femtoSMDC Series</b>       |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| <b>Size 1608 mm/0603 mils</b> |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| 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                    |
| <b>picoSMDC Series</b>        |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| <b>Size 2012 mm/0805 mils</b> |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| 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                    |
| <b>nanoSMDC Series</b>        |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| <b>Size 3216 mm/1206 mils</b> |                    |                    |                                     |                      |                        |                   |      |                      |                       |                       |
| 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**

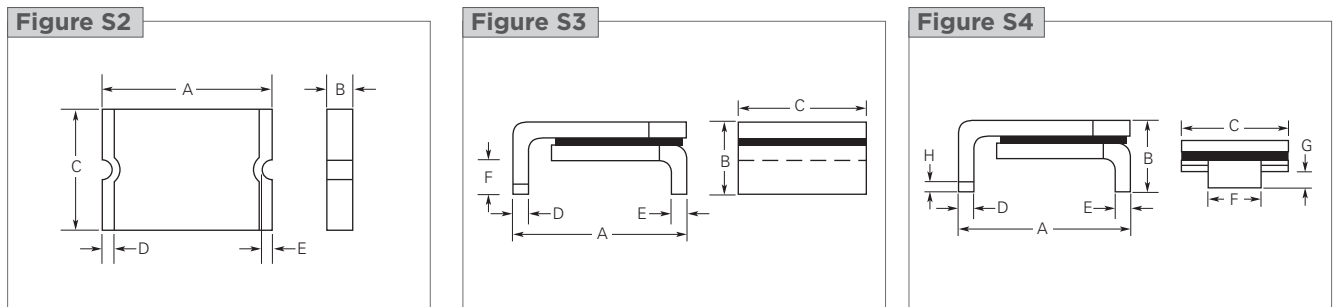
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| Part Number                    | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | I <sub>MAX</sub><br>(A) | P <sub>D MAX</sub><br>(W) | Max. Time-to-Trip |       | R <sub>MIN</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Figure for<br>Dimensions |
|--------------------------------|-----------------------|-----------------------|--|-------------------------|---------------------------|-------------------|-------|-------------------------|--------------------------|--------------------------|
|                                |                       |                       |  |                         |                           | (A)               | (S)   |                         |                          |                          |
| <b>microSMD Series</b>         |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 3225 mm/1210 mils</b>  |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| microSMD005F                   | 0.05                  | 0.15                  | 30                                     | 10                      | 1.00                      | 0.25              | 1.50  | 3.60                    | 50.00                    | S2                       |
| microSMD010F                   | 0.10                  | 0.25                  | 30                                     | 10                      | 0.80                      | 0.50              | 1.00  | 2.10                    | 15.00                    | S2                       |
| microSMD035F                   | 0.35                  | 0.75                  | 6                                      | 40                      | 0.80                      | 8.00              | 0.20  | 0.32                    | 1.30                     | S2                       |
| microSMD050F                   | 0.50                  | 1.00                  | 13.2                                   | 40                      | 0.80                      | 8.00              | 0.05  | 0.25                    | 0.90                     | S2                       |
| microSMD075F                   | 0.75                  | 1.50                  | 6                                      | 40                      | 0.80                      | 8.00              | 0.10  | 0.11                    | 0.40                     | S2                       |
| microSMD110F                   | 1.10                  | 2.20                  | 6                                      | 40                      | 0.80                      | 8.00              | 0.20  | 0.07                    | 0.21                     | S2                       |
| microSMD150F                   | 1.50                  | 3.00                  | 6                                      | 40                      | 0.80                      | 8.00              | 1.00  | 0.04                    | 0.11                     | S2                       |
| microSMD175F                   | 1.75                  | 3.50                  | 6                                      | 40                      | 0.80                      | 8.00              | 0.80  | 0.025                   | 0.08                     | S2                       |
| microSMD200F                   | 2.00                  | 4.00                  | 6                                      | 100                     | 0.80                      | 8.00              | 2.50  | 0.020                   | 0.06                     | S2                       |
| <b>miniSMDC Series</b>         |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 4532 mm/1812 mils</b>  |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| miniSMDC010F                   | 0.10                  | 0.30                  | 60                                     | 40                      | 0.75                      | 0.50              | 5.00  | 0.70                    | 12.70                    | S2                       |
| miniSMDC014F                   | 0.14                  | 0.28                  | 60                                     | 10                      | 0.75                      | 8.00              | 0.008 | 1.50                    | 6.00                     | S2                       |
| miniSMDC020F                   | 0.20                  | 0.40                  | 30                                     | 10                      | 0.80                      | 8.00              | 0.02  | 0.60                    | 3.30                     | S2                       |
| miniSMDC030F                   | 0.30                  | 0.60                  | 30                                     | 40                      | 0.80                      | 8.00              | 0.10  | 0.20                    | 1.75                     | S2                       |
| miniSMDC050F                   | 0.50                  | 1.00                  | 24                                     | 100                     | 0.80                      | 8.00              | 0.15  | 0.15                    | 1.00                     | S2                       |
| miniSMDC075F                   | 0.75                  | 1.50                  | 13.2                                   | 100                     | 1.00                      | 8.00              | 0.20  | 0.11                    | 0.45                     | S2                       |
| miniSMDC075F/24                | 0.75                  | 1.50                  | 24                                     | 40                      | 0.80                      | 8.00              | 0.30  | 0.09                    | 0.29                     | S2                       |
| 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                       |
| <b>miniSMDE Series</b>         |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 11550 mm/4420 mils</b> |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| miniSMDE190F                   | 1.90                  | 3.80                  | 16                                     | 100                     | 1.50                      | 10.00             | 2.00  | 0.024                   | 0.08                     | S2                       |
| <b>midSMD Series</b>           |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 5050 mm/2018 mils</b>  |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| SMD030F-2018                   | 0.30                  | 0.80                  | 60                                     | 20                      | 1.50                      | 1.50              | 1.50  | 0.500                   | 2.30                     | S3                       |
| decaSMDC050F/60                | 0.55                  | 1.10                  | 60                                     | 10                      | 1.00                      | 8.00              | 0.10  | 0.200                   | 1.10                     | S2                       |
| SMD100F-2018                   | 1.10                  | 2.20                  | 15                                     | 40                      | 1.40                      | 8.00              | 0.50  | 0.100                   | 0.40                     | S3                       |
| SMD150F-2018                   | 1.50                  | 3.00                  | 15                                     | 40                      | 1.80                      | 8.00              | 1.00  | 0.070                   | 0.18                     | S3                       |
| SMD200F-2018                   | 2.00                  | 4.20                  | 6                                      | 40                      | 1.50                      | 8.00              | 3.00  | 0.048                   | 0.10                     | S3                       |

**Table S3 Electrical Characteristics for Surface-mount Devices at Room Temperature** Cont'd

| Part Number                   | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | I <sub>MAX</sub><br>(A) | P <sub>D</sub> MAX<br>(W) | Max. Time-to-Trip |       | R <sub>MIN</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Figure for<br>Dimensions |
|-------------------------------|-----------------------|-----------------------|--|-------------------------|---------------------------|-------------------|-------|-------------------------|--------------------------|--------------------------|
|                               |                       |                       |  |                         |                           | (A)               | (S)   |                         |                          |                          |
| <b>SMD Series</b>             |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 7555 mm/2920 mils</b> |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| SMD030F                       | 0.30                  | 0.60                  | 60                                     | 10                      | 1.70                      | 1.50              | 3.00  | 1.200                   | 4.800                    | S4                       |
| SMD050F                       | 0.50                  | 1.00                  | 60                                     | 10                      | 1.70                      | 2.50              | 4.00  | 0.350                   | 1.400                    | S4                       |
| SMD075F                       | 0.75                  | 1.50                  | 30                                     | 40                      | 1.70                      | 8.00              | 0.30  | 0.350                   | 1.000                    | S4                       |
| SMD075F/60                    | 0.75                  | 1.50                  | 60                                     | 10                      | 1.70                      | 8.00              | 0.30  | 0.350                   | 1.000                    | S4                       |
| SMD100F                       | 1.10                  | 2.20                  | 30                                     | 40                      | 1.70                      | 8.00              | 0.50  | 0.120                   | 0.480                    | S4                       |
| SMD100F/33                    | 1.10                  | 2.20                  | 33                                     | 40                      | 1.70                      | 8.00              | 0.50  | 0.120                   | 0.410                    | S4                       |
| SMDH120                       | 1.20                  | 2.30                  | 16                                     | 50                      | 2.00                      | 8.00              | 2.00  | 0.150                   | 0.340                    | S4                       |
| SMD125F                       | 1.25                  | 2.50                  | 15                                     | 40                      | 1.70                      | 8.00              | 2.00  | 0.070                   | 0.250                    | S4                       |
| 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                       |
| <b>SMD2 Devices</b>           |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| <b>Size 8763 mm/3425 mils</b> |                       |                       |  |                         |                           |                   |       |                         |                          |                          |
| SMD150F                       | 1.50                  | 3.00                  | 15                                     | 40                      | 1.90                      | 8.00              | 5.00  | 0.060                   | 0.250                    | S4                       |
| SMD150F/33                    | 1.50                  | 3.00                  | 33                                     | 40                      | 1.90                      | 8.00              | 5.00  | 0.080                   | 0.230                    | S4                       |
| SMDH160                       | 1.60                  | 3.20                  | 16                                     | 70                      | 2.20                      | 8.00              | 15.00 | 0.050                   | 0.150                    | S4                       |
| SMD185F                       | 1.85                  | 3.60                  | 33                                     | 40                      | 1.50                      | 8.00              | 5.00  | 0.065                   | 0.165                    | S4                       |
| SMD200F                       | 2.00                  | 4.00                  | 15                                     | 40                      | 1.90                      | 8.00              | 12.00 | 0.050                   | 0.125                    | S4                       |
| SMD250F                       | 2.50                  | 5.00                  | 15                                     | 40                      | 1.90                      | 8.00              | 25.00 | 0.035                   | 0.085                    | S4                       |

**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. |        |
| <b>femtoSMDC Series</b>       |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |      |        |
| <b>Size 1608 mm/0603 mils</b> |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |      |        |
| <b>NEW</b> 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) | —    | —    | —    | —    | —    | —    | —    |        |
| <b>NEW</b> 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) | —    | —    | —    | —    | —    | —    | —    |        |
| <b>NEW</b> 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) | —    | —    | —    | —    | —    | —    | —    |        |
| <b>NEW</b> 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) | —    | —    | —    | —    | —    | —    | —    |        |
| <b>NEW</b> 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) | —    | —    | —    | —    | —    | —    | —    |        |
| <b>NEW</b> 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. |        |
| <b>picoSMDC Series</b>           |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>Size 2012 mm/0805 mils</b>    |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>NEW</b> picoSMDC010S          | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.60<br>(0.023) | 1.00<br>(0.040) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>NEW</b> picoSMDC012S          | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| picoSMDC020S                     | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| picoSMDC035S                     | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>NEW</b> picoSMDC050S          | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.63<br>(0.025) | 0.93<br>(0.036) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>coming soon</b> picoSMDC075S* | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.60<br>(0.023) | 1.00<br>(0.040) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>coming soon</b> picoSMDC110S* | 2.00<br>(0.079) | 2.20<br>(0.087) | 0.71<br>(0.028) | 1.04<br>(0.041) | 1.30<br>(0.051) | 1.50<br>(0.059) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>nanoSMDC Series</b>           |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>Size 3216 mm/1206 mils</b>    |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| nanoSMDC012F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.62<br>(0.024) | 1.00<br>(0.039) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC016F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.62<br>(0.024) | 1.00<br>(0.039) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC020F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>NEW</b> nanoSMDC025F          | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC035F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.58<br>(0.023) | 0.82<br>(0.032) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC050F/13.2                | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.50<br>(0.019) | 0.74<br>(0.029) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC075F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.44<br>(0.017) | 0.68<br>(0.027) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC110F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.28<br>(0.011) | 0.67<br>(0.026) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC150F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.55<br>(0.022) | 0.89<br>(0.035) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| nanoSMDC200F                     | 3.00<br>(0.118) | 3.40<br>(0.134) | 0.83<br>(0.033) | 1.10<br>(0.043) | 1.37<br>(0.054) | 1.80<br>(0.071) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| <b>microSMD Series</b>           |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>Size 3225 mm/1210 mils</b>    |                 |                 |                 |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| microSMD005F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.50<br>(0.019) | 0.85<br>(0.034) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD010F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.50<br>(0.019) | 0.85<br>(0.034) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD035F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD050F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD075F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.38<br>(0.015) | 0.62<br>(0.025) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD110F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.28<br>(0.011) | 0.48<br>(0.019) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD150F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.51<br>(0.020) | 1.22<br>(0.048) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD175F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.40<br>(0.016) | 0.76<br>(0.030) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |
| microSMD200F                     | 3.0<br>(0.118)  | 3.43<br>(0.135) | 0.79<br>(0.031) | 1.17<br>(0.046) | 2.35<br>(0.092) | 2.80<br>(0.110) | 0.25<br>(0.010) | 0.75<br>(0.030) | 0.076<br>(0.003) | —    | —    | —    | —    | —    | —    | S2     |

**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. |        |
| <b>miniSMDC Series</b>         |                  |                  |                  |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>Size 4532 mm/1812 mils</b>  |                  |                  |                  |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| miniSMDC010F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC014F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC020F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC030F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.635<br>(0.025) | 0.89<br>(0.035) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC050F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC075F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC075F/24                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.81<br>(0.032)  | 1.46<br>(0.057) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC100F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC110F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.38<br>(0.015)  | 0.62<br>(0.025) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC110F/16                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC110F/24                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.81<br>(0.032)  | 1.46<br>(0.057) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC125F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC125F/16                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC150F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC150F/12                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC150F/16                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC150F/24                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 1.00<br>(0.040)  | 1.94<br>(0.077) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC160F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.28<br>(0.011)  | 0.48<br>(0.019) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC200F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.51<br>(0.020)  | 1.22<br>(0.048) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC260F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.48<br>(0.019)  | 0.78<br>(0.031) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC260F/12                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC260F/13.2              | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC260F/16                | 4.37<br>(0.172)  | 4.83<br>(0.190)  | 1.02<br>(0.042)  | 1.52<br>(0.060) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| miniSMDC300F                   | 4.37<br>(0.172)  | 4.73<br>(0.186)  | 0.45<br>(0.018)  | 0.76<br>(0.030) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.95<br>(0.040) | 0.20<br>(0.008)  | —    | —    | —    | —    | —    | —    | S2     |
| <b>miniSMDE Series</b>         |                  |                  |                  |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| <b>Size 11550 mm/4420 mils</b> |                  |                  |                  |                 |                 |                 |                 |                 |                  |      |      |      |      |      |      |        |
| miniSMDE190F                   | 11.15<br>(0.439) | 11.51<br>(0.453) | 0.33<br>(0.013)  | 0.53<br>(0.021) | 4.83<br>(0.190) | 5.33<br>(0.210) | 0.51<br>(0.020) | 1.02<br>(0.040) | 0.381<br>(0.015) | —    | —    | —    | —    | —    | —    | S2     |

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

Cont'd

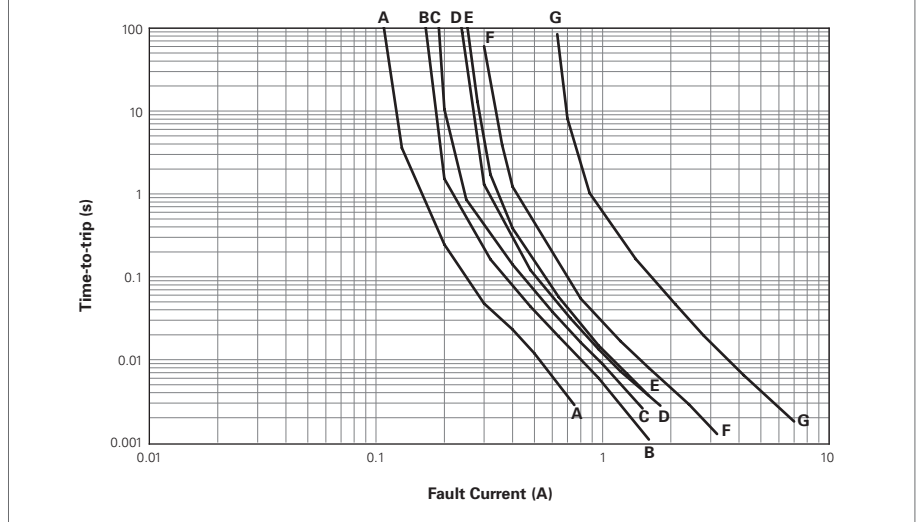
| Part Number                   | A               |                 | B               |                 | C               |                 | D               |                 | E               |                 | F               |                 | G               |                 | H             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

**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**

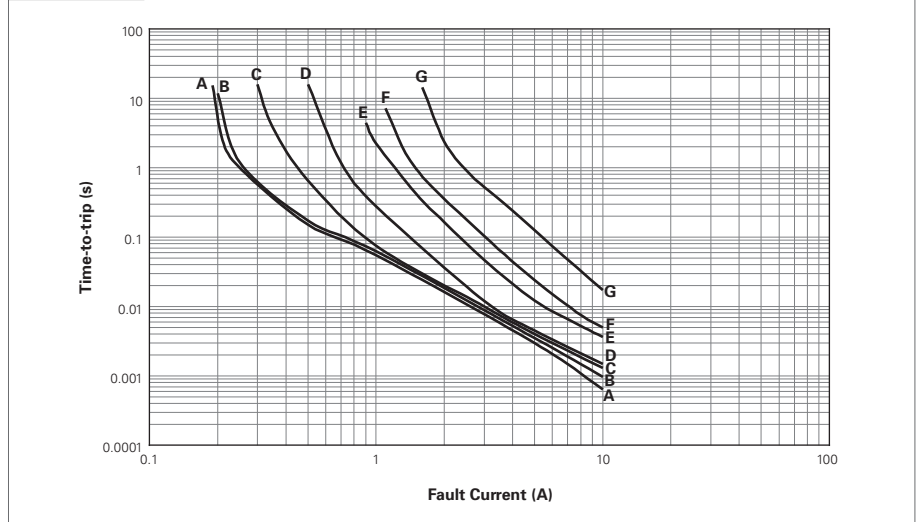


**picoSMDCxxxS**

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

\* Data is preliminary

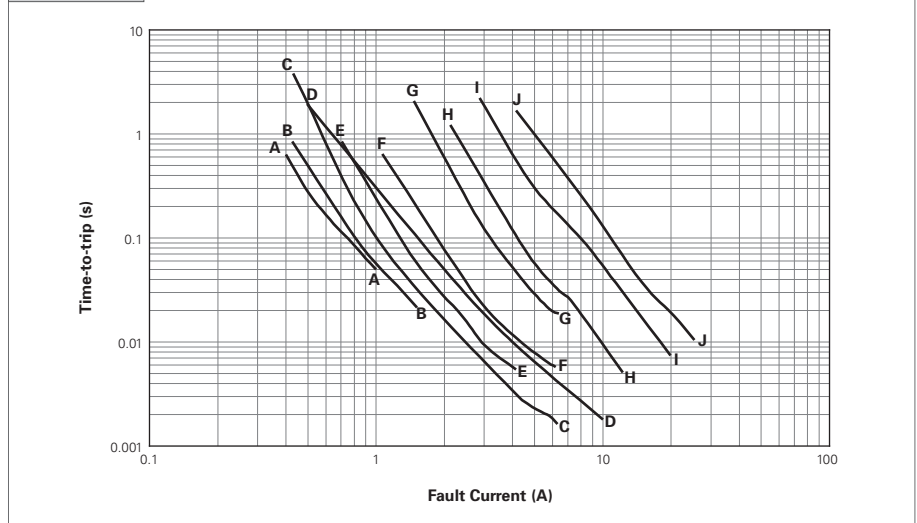
**Figure S6**



**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**

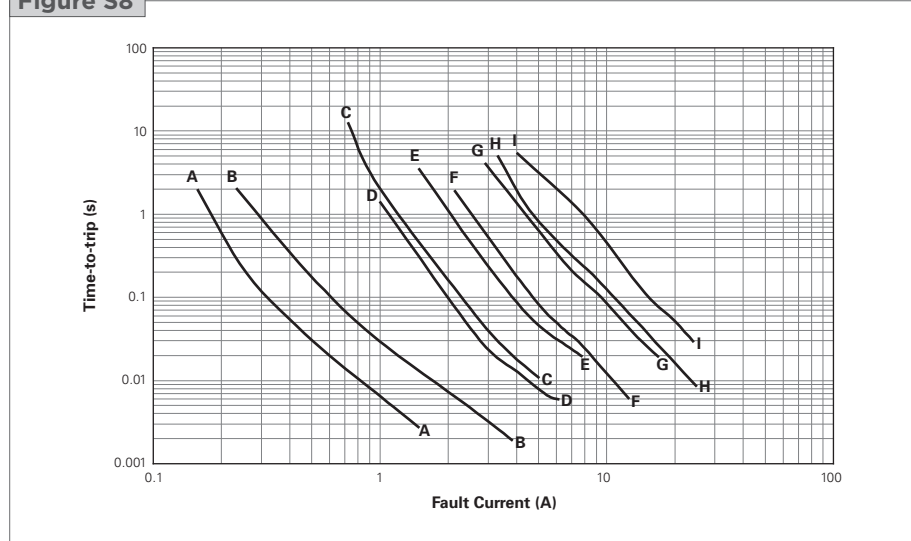


**Figure S5-S12 Typical Time-to-trip Curves at 20°C for Surface-mount Devices**

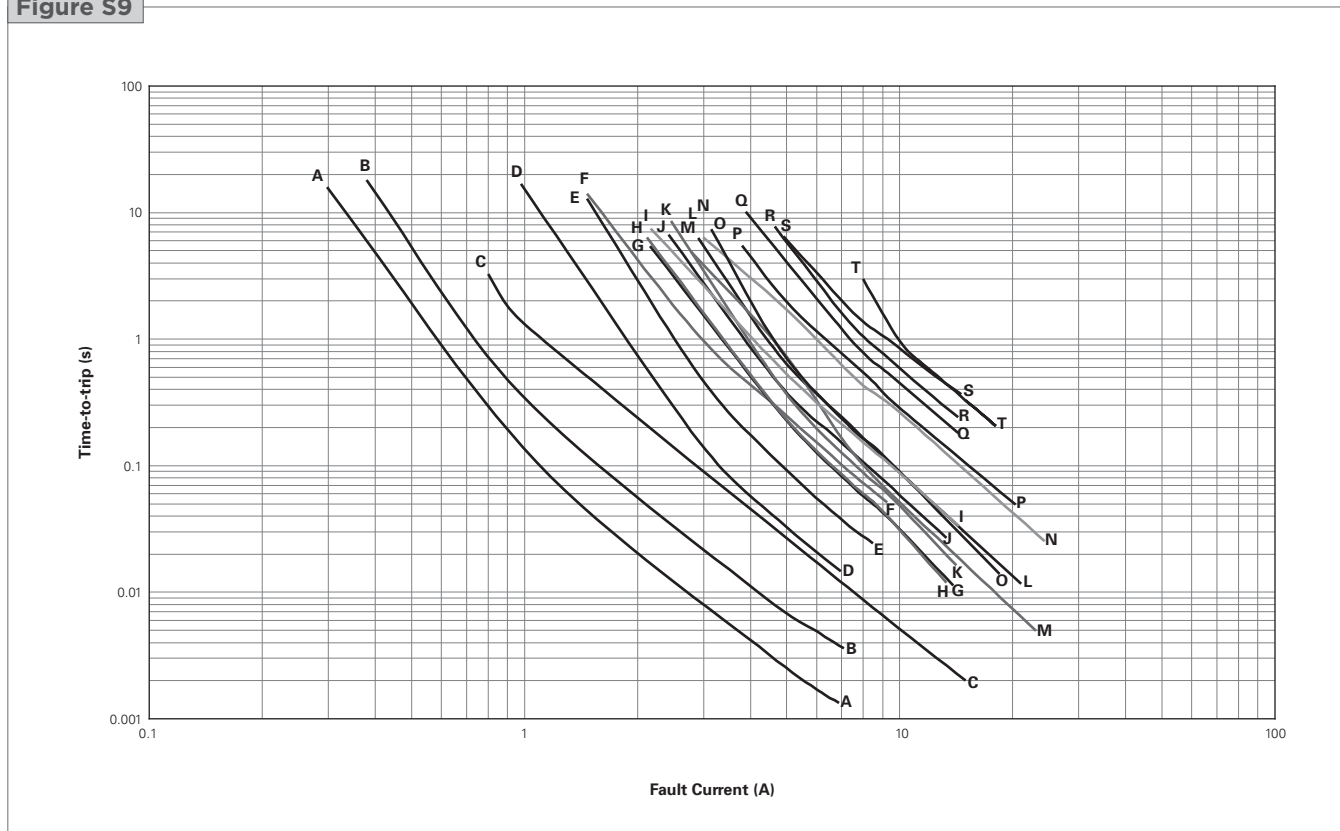
Cont'd

**microSMDxxxF**

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

**Figure S8**

**miniSMDCxxxF and miniSMDExxxF**

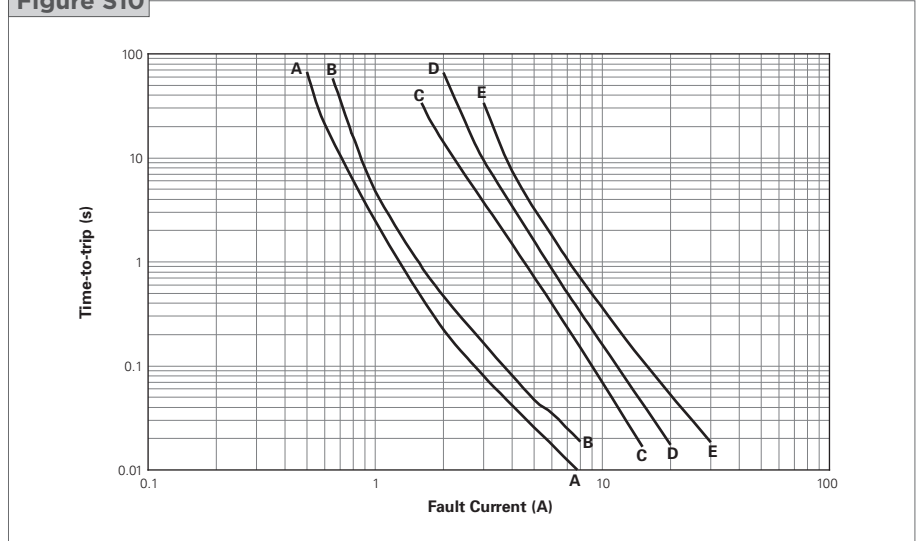
- |                                |                                   |   |
|--------------------------------|-----------------------------------|---|
| A = miniSMDC010F, miniSMDC014F | H = miniSMDC110F/16               | O = miniSMDC160F  |
| B = miniSMDC020F               | I = miniSMDC110F/24               | 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

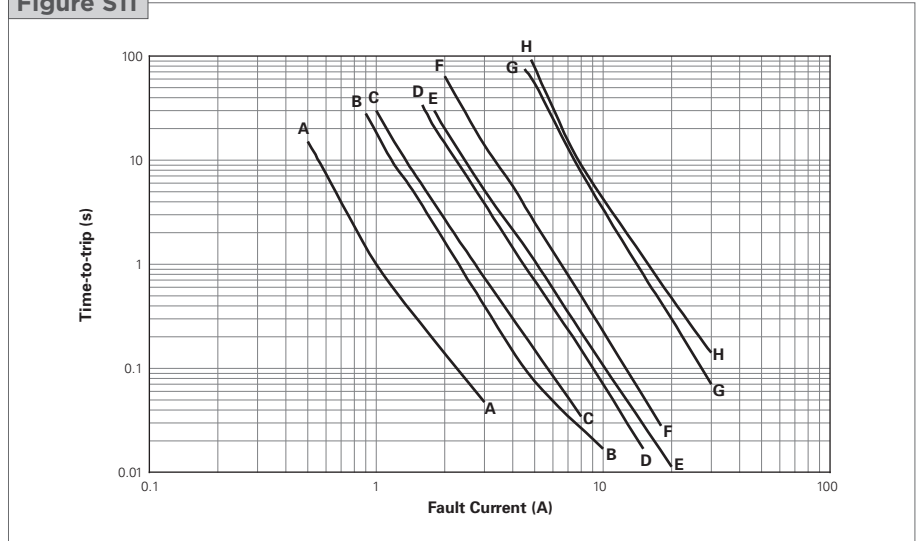
**Figure S10**



**SMDxxxF**

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

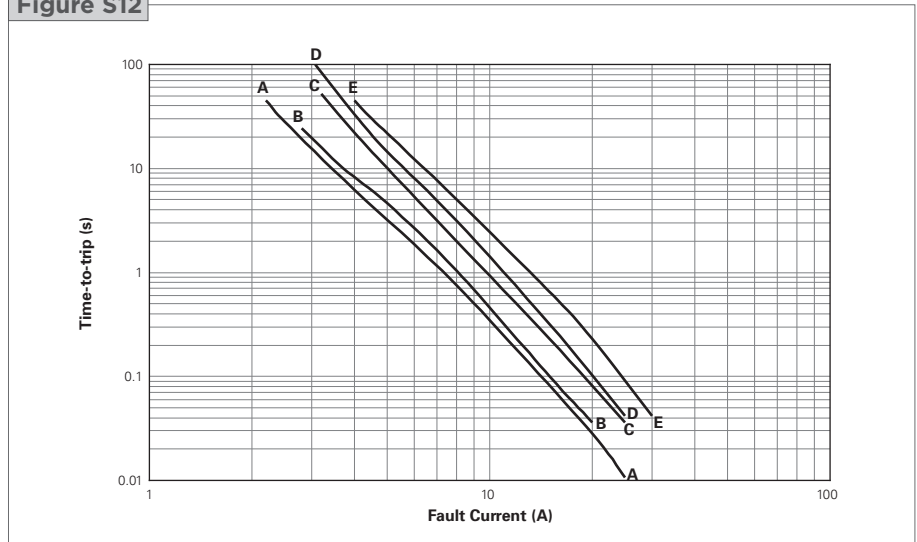
**Figure S11**



**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<br>ANSI/J-STD-002 Category 1 for SMD series |
| Solder heat withstand          | per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A  |
| Flammability resistance        | per IEC 695-2-2 Needle Flame Test for 20 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.) |                    |
| <b>femtoSMDC Series</b>       |                      |                  |              |  |                    |                    |                    |
| <b>Size 1608 mm/0603 mils</b> |                      |                  |              |  |                    |                    |                    |
| 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            |
| <b>picoSMDC Series</b>        |                      |                  |              |  |                    |                    |                    |
| <b>Size 2012 mm/0805 mils</b> |                      |                  |              |  |                    |                    |                    |
| 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            |
| <b>nanoSMDC Series</b>        |                      |                  |              |  |                    |                    |                    |
| <b>Size 3216 mm/1206 mils</b> |                      |                  |              |  |                    |                    |                    |
| 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.) |                    |
| <b>microSMD Series</b>         |                      |                  |              |  |                    |                    |                    |
| <b>Size 3225 mm/1210 mils</b>  |                      |                  |              |  |                    |                    |                    |
| microSMD005F                   | 4,000                | 20,000           | 05           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD010F                   | 4,000                | 20,000           | 10           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD035F                   | 4,000                | 20,000           | 3            | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD050F                   | 4,000                | 20,000           | 50           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD075F                   | 4,000                | 20,000           | 75           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD110F                   | 4,000                | 20,000           | 11           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD150F                   | 4,000                | 20,000           | 15           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD175F                   | 4,000                | 20,000           | 17           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| microSMD200F                   | 3,000                | 15,000           | 20           | 2.50 (0.098)                             | 1.00 (0.039)       | 2.00 (0.079)       | UL, CSA, TÜV       |
| <b>miniSMDC Series</b>         |                      |                  |              |  |                    |                    |                    |
| <b>Size 4532 mm/1812 mils</b>  |                      |                  |              |  |                    |                    |                    |
| 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            |
| <b>miniSMDE Series</b>         |                      |                  |              |  |                    |                    |                    |
| <b>Size 11550 mm/4420 mils</b> |                      |                  |              |  |                    |                    |                    |
| miniSMDE190F                   | 5,000                | 20,000           | 19           | 4.75 (0.187)                             | 1.45 (0.057)       | 9.57 (0.377)       | UL, CSA, TÜV       |
| <b>midSMD Series</b>           |                      |                  |              |  |                    |                    |                    |
| <b>Size 5050 mm/2018 mils</b>  |                      |                  |              |  |                    |                    |                    |
| SMD030F-2018                   | 4,000                | 20,000           | A03F         | 4.60 (0.18)                              | 1.50 (0.059)       | 3.40 (0.134)       | UL, CSA, TÜV       |
| decaSMDC050F/60                | 1,000                | 5,000            | 050F 60V     | 4.32 (0.17)                              | 1.40 (0.055)       | 3.61 (0.142)       | UL, CSA, TÜV       |
| SMD100F-2018                   | 4,000                | 20,000           | A10F         | 4.60 (0.18)                              | 1.50 (0.059)       | 3.40 (0.134)       | UL, CSA, TÜV       |
| SMD150F-2018                   | 4,000                | 20,000           | A15F         | 4.60 (0.18)                              | 1.50 (0.059)       | 3.40 (0.134)       | UL, CSA, TÜV       |
| SMD200F-2018                   | 4,000                | 20,000           | A20F         | 4.60 (0.18)                              | 1.50 (0.059)       | 3.40 (0.134)       | UL, CSA, TÜV       |



**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.) |                    |
| <b>SMD Series</b>             |                      |                  |              |  |                    |                    |                    |
| <b>Size 7555 mm/2920 mils</b> |                      |                  |              |  |                    |                    |                    |
| SMD030F                       | 2,000                | 10,000           | 030F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD050F                       | 2,000                | 10,000           | 050F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD075F                       | 2,000                | 10,000           | 075F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD075F/60                    | 2,000                | 10,000           | 756F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD100F                       | 2,000                | 10,000           | 100F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD100F/33                    | 2,000                | 10,000           | 103F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMDH120                       | 2,000                | 10,000           | H12          | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| SMD125F                       | 2,000                | 10,000           | 125F         | 3.10 (0.12)                              | 2.30 (0.09)        | 5.10 (0.201)       | UL, CSA, TÜV       |
| 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            |
| <b>SMD2 Devices</b>           |                      |                  |              |  |                    |                    |                    |
| <b>Size 8763 mm/3425 mils</b> |                      |                  |              |  |                    |                    |                    |
| SMD150F                       | 1,500                | 7,500            | 150F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |
| SMD150F/33                    | 1,500                | 7,500            | 153F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |
| SMDH160                       | 1,500                | 7,500            | 160F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |
| SMD185F                       | 1,500                | 7,500            | 185F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |
| SMD200F                       | 1,500                | 7,500            | 200F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |
| SMD250F                       | 1,500                | 7,500            | 250F         | 4.60 (0.18)                              | 2.30 (0.09)        | 6.10 (0.240)       | UL, CSA, TÜV       |

**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) |

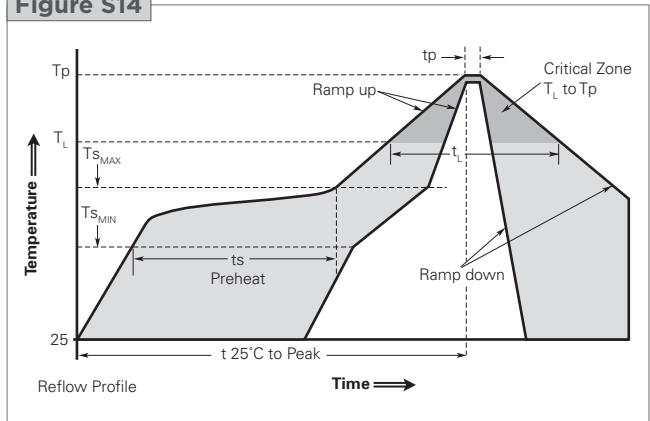
## Solder Reflow and Rework Recommendation for Surface-mount Devices

### Classification Reflow Profiles

| Profile Feature                                      | Pb-Free Assembly |
|--|------------------|
| <b>Average ramp up rate (Ts<sub>MAX</sub> to Tp)</b> | 3°C/second max.  |
| <b>Preheat</b>                                       |                  |
| • Temperature min. (Ts <sub>MIN</sub> )              | 150°C            |
| • Temperature max. (Ts <sub>MAX</sub> )              | 200°C            |
| • Time (ts <sub>MIN</sub> to ts <sub>MAX</sub> )     | 60-120 seconds   |
| <b>Time maintained above:</b>                        |                  |
| • Temperature (T <sub>L</sub> )                      | 217°C            |
| • Time (t <sub>L</sub> )                             | 60-150 seconds   |
| <b>Peak/Classification temperature (Tp)</b>          | 260°C            |
| <b>Time within 5°C of actual peak temperature</b>    |                  |
| Time (tp)  | 30 seconds max.  |
| <b>Ramp down rate</b>                                | 3°C/second max.  |
| <b>Time 25°C to peak temperature</b>                 | 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<br>and<br>decaSMDC050F/60 | miniSMDE190  | midSMD<br>except<br>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 <sub>0</sub>      | 4.0 ± 0.10  | 4.0 ± 0.10  | 4.0 ± 0.10  | 4.0 ± 0.10  | 4.0 ± 0.10                         | 4.0 ± 0.10   | 4.0 ± 0.10                          | 4.0 ± 0.10       | 4.0 ± 0.10       |
| P <sub>1</sub>      | 4.0 ± 0.10  | 4.0 ± 0.10  | 4.0 ± 0.10  | 4.0 ± 0.10  | 8.0 ± 0.10                         | 8.0 ± 0.10   | 8.0 ± 0.10                          | 8.0 ± 0.10       | 12.0 ± 0.10      |
| P <sub>2</sub>      | 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 <sub>0</sub>      | 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 <sub>0</sub>      | 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 <sub>1</sub> max. | 4.35        | 4.35        | 4.35        | 4.35        | 8.2                                | 20.1         | 12.1                                | 12.1             | 12.1             |
| D <sub>0</sub>      | 1.55 ± .05  | 1.55 ± .05  | 1.55 ± .05  | 1.55 ± .05  | 1.5 + 0.10/-0.00                   | 1.55 ± .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 ± 0.05                        | 11.50 ± 0.10 | 7.50 ± 0.10                         | 7.50 ± 0.10      | 7.50 ± 0.10      |
| E <sub>1</sub>      | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10 | 1.75 ± 0.10                        | 1.75 ± 0.10  | 1.75 ± 0.10                         | 1.75 ± 0.10      | 1.75 ± 0.10      |
| E <sub>2</sub> 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 <sub>1</sub> max. | 0.1         | 0.1         | 0.1         | 0.1         | 0.1                                | 0.1          | 0.1                                 | 0.1              | 0.1              |
| K <sub>0</sub>      | Table S8    | Table S8    | Table S8    | Table S8    | Table S8                           | 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)**

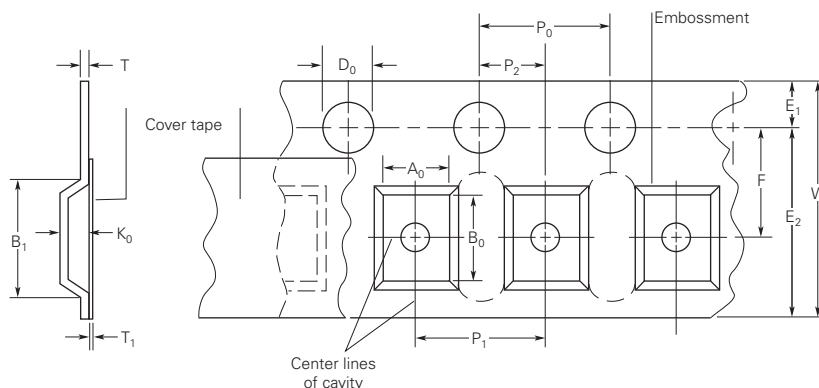
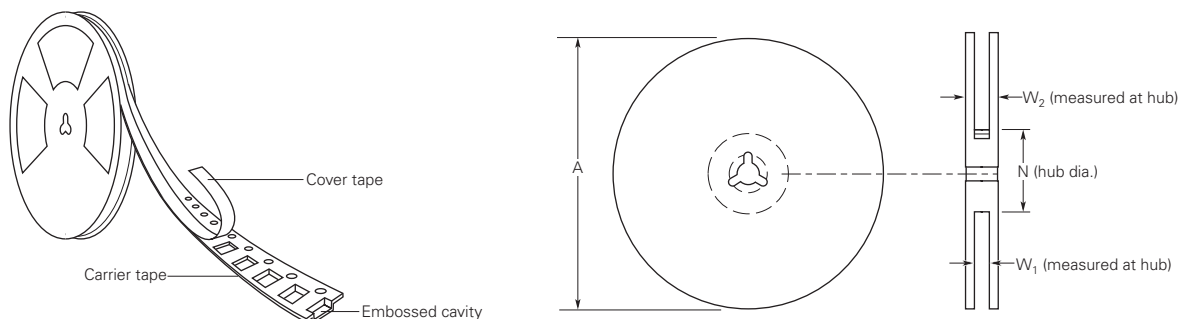
|                | femtoSMDC005F<br>femtoSMDC008F<br>femtoSMDC010F<br>femtoSMDC035F | femtoSMDC012F<br>femtoSMDC016F<br>femtoSMDC020F | picoSMDC012S<br>picoSMDC020S<br>picoSMDC035S | picoSMDC010S<br>picoSMDC050S<br>picoSMDC075S<br>picoSMDC110S | All<br>nanoSMDC series<br>except<br>nanoSMDC012F<br>nanoSMDC016F<br>nanoSMDC200F | nanoSMDC012F<br>nanoSMDC016F<br>nanoSMDC200F |
|----------------|--|---|--|--|--|--|
| A <sub>0</sub> | 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 <sub>0</sub> | 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 <sub>0</sub> | 0.90 ± 0.1   | 0.80 ± 0.1                                      | 0.86 ± 0.1                                   | 1.35 ± 0.1   | 0.89 ± 0.1   | 1.27 ± 0.1                                   |

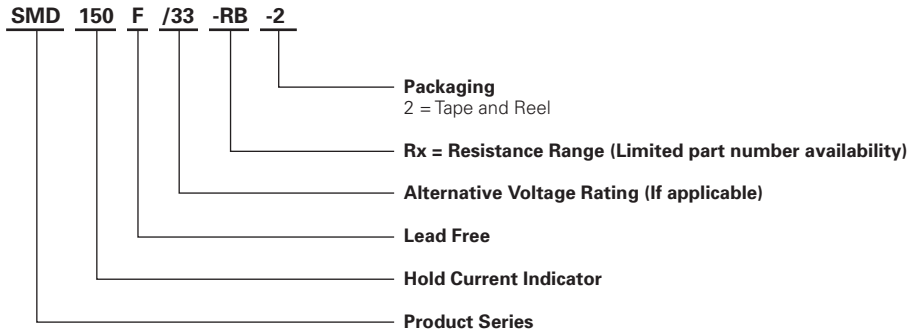
|                | All<br>microSMD series<br>except<br>microSMD200F | microSMD200F | miniSMDC014F~075F<br>miniSMDC100F~110F/16<br>miniSMDC125F~150F/16<br>miniSMDC160F~260F | miniSMDC075F/24<br>miniSMDC110F/24<br>miniSMDC260F/12<br>miniSMDC260F/13.2<br>miniSMDC260F/16 | miniSMDC150F/24 | decaSMDC050F/60 |
|----------------|--|--------------|--|---|-----------------|-----------------|
| A <sub>0</sub> | 2.9 ± 0.1  | 2.9 ± 0.1    | 3.5 ± 0.1  | 3.7 ± 0.1   | 3.7 ± 0.1       | 5.0 ± 0.1       |
| B <sub>0</sub> | 3.5 ± 0.1  | 3.5 ± 0.1    | 4.95 ± 0.1   | 4.9 ± 0.1   | 4.9 ± 0.1       | 5.4 ± 0.1       |
| K <sub>0</sub> | 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 <sub>1</sub>      | 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 <sub>2</sub> 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.