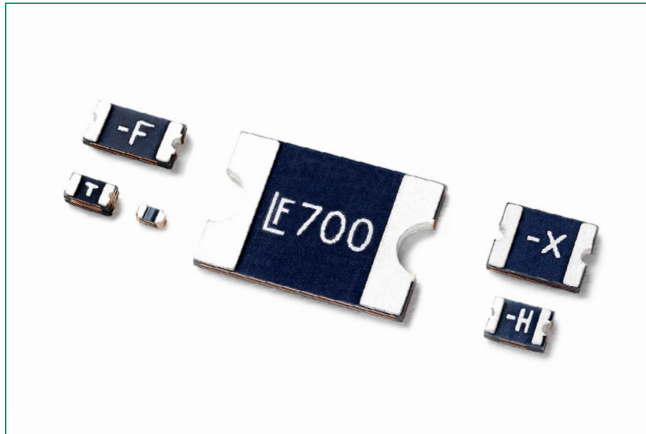


# Low Rho Series

## PolySwitch Resettable PPTC



### Additional Information



Resources





Accessories



Samples

### Agency Approvals

| Agency  | Agency File Number |
|---|--------------------|
|  | E183209            |
|  | R50119118          |

### Description

Littelfuse Low Rho Surface Mount PPTC (Polymer Positive Temperature Coefficient) devices provide overcurrent protection for applications where ultra low internal resistance, ultra low voltage drop and automatic resettable protection are desired. This new series allows a higher hold current device in a smaller factor and lower profile as compared to a standard PPTC. It offers ultra low internal resistance while maintaining the high level electrical characteristics and performances of standard PPTC products. All devices are UL recognized and TUV approved and have maximum fault current of 50A. They are available in 0402 to 2920 sizes while the hold current ranges from 100mA to 9A.

### Features & Benefits

- Ultra low internal resistance
- Very thin profile
- Miniature size saves board space
- Allows a higher hold current device in a smaller factor and lower profile as compared to a standard PPTC
- Fast response to fault currents
- Compatible with high temperature solders
- Broadest range of Hold Current ratings (100mA to 9A)
- RoHS compliant, Lead Free and Halogen Free
- UL recognized and TUV approved

### Applications

- USB peripherals including new USB 3.0 / 2.0 ports
- Li-ion / Li-Polymer battery packs
- Smart phones
- Tablet and Notebook PCs
- E-readers
- LCD / LED HDTV
- Computer peripherals
- Digital cameras and video cameras
- Hard disk drives
- Game consoles

#### WARNING

- Users shall independently assess the suitability of these devices for each of their applications
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the performance of these PPTC devices
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses
- Circuits with inductance may generate a voltage ( $L di/dt$ ) above the rated voltage of the PPTC device.

# Low Rho Series

## PolySwitch Resettable PPTC

### Electrical Characteristics

| Part Number   | Marking | I <sub>hold</sub><br>(A) | I <sub>trip</sub><br>(A) | V <sub>max</sub><br>(Vdc) | I <sub>max</sub><br>(A) | P <sub>d</sub> typ.<br>(W) | Maximum Time-To-Trip |             | Resistance           |                       | Agency Approvals |         |
|---------------|---------|--------------------------|--------------------------|---------------------------|-------------------------|----------------------------|----------------------|-------------|----------------------|-----------------------|------------------|---------|
|               |         |                          |                          |                           |                         |                            | Current (A)          | Time (Sec.) | R <sub>min</sub> (Ω) | R <sub>1max</sub> (Ω) | cULus            | △       |
| 0402L010SL    | -       | 0.10                     | 0.30                     | 6                         | 40                      | 0.5                        | 0.50                 | 1.00        | 0.150                | 2.000                 | X                | X       |
| 0402L020SL    | -       | 0.20                     | 0.50                     | 6                         | 40                      | 0.5                        | 1.00                 | 1.00        | 0.100                | 1.250                 | X                | X       |
| 0402L035SL    | -       | 0.35                     | 0.70                     | 6                         | 40                      | 0.5                        | 8.00                 | 0.10        | 0.050                | 0.700                 | X                | X       |
| 0402L050SL    | -       | 0.50                     | 1.00                     | 6                         | 40                      | 0.5                        | 8.00                 | 0.10        | 0.040                | 0.400                 | X                | X       |
| 0402L075SL    | -       | 0.75                     | 1.50                     | 6                         | 40                      | 0.5                        | 8.00                 | 0.10        | 0.030                | 0.300                 | X                | X       |
| 0402L100SL    | -       | 1.00                     | 2.00                     | 6                         | 40                      | 0.5                        | 8.00                 | 0.20        | 0.030                | 0.250                 | X                | X       |
| 0603L050SL    | K       | 0.50                     | 1.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.10        | 0.070                | 0.350                 | X                | X       |
| 0603L075SL    | N       | 0.75                     | 1.50                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.20        | 0.020                | 0.165                 | X                | X       |
| 0603L100SL    | S       | 1.00                     | 1.80                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.30        | 0.040                | 0.120                 | X                | X       |
| 0603L150SL    | T       | 1.50                     | 3.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.50        | 0.007                | 0.080                 | X                | X       |
| 0603L175SL    | V       | 1.75                     | 3.50                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.60        | 0.005                | 0.060                 | X                | X       |
| 0603L200SL-V  | X       | 2.00                     | 4.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 1.00        | 0.005                | 0.040                 | X                | X       |
| 0603L300SL    | Y       | 3.00                     | 6.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 5.00        | 0.003                | 0.030                 | X                | X       |
| 0805L075SL    | -G      | 0.75                     | 1.50                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.20        | 0.040                | 0.150                 | X                | X       |
| 0805L110SL    | -H      | 1.10                     | 1.80                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.30        | 0.030                | 0.120                 | X                | X       |
| 0805L150SL    | -K      | 1.50                     | 3.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.50        | 0.015                | 0.065                 | X                | X       |
| 0805L175SL    | -V      | 1.75                     | 3.50                     | 6                         | 50                      | 0.6                        | 8.00                 | 0.60        | 0.005                | 0.055                 | X                | X       |
| 0805L200SLTH  | -L      | 2.00                     | 4.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 1.00        | 0.005                | 0.045                 | X                | X       |
| 0805L260SLTH  | -S      | 2.60                     | 5.20                     | 6                         | 50                      | 0.6                        | 8.00                 | 4.00        | 0.003                | 0.035                 | X                | X       |
| 0805L300SL    | -N      | 3.00                     | 6.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 5.00        | 0.003                | 0.030                 | X                | X       |
| 0805L300SLTH  | -N      | 3.00                     | 6.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 5.00        | 0.003                | 0.030                 | X                | X       |
| 0805L350SL    | -T      | 3.50                     | 7.00                     | 6                         | 50                      | 0.6                        | 8.00                 | 5.00        | 0.003                | 0.025                 | X                | X       |
| 0805L400SL    | -Y      | 4.00                     | 9.00                     | 6                         | 50                      | 0.6                        | 20.00                | 2.00        | 0.003                | 0.018                 | X                | X       |
| 1206L075SL    | -G      | 0.75                     | 1.50                     | 6                         | 50                      | 0.8                        | 8.00                 | 0.30        | 0.017                | 0.180                 | X                | X       |
| 1206L110SL    | -H      | 1.10                     | 2.20                     | 6                         | 50                      | 0.8                        | 8.00                 | 0.30        | 0.015                | 0.100                 | X                | X       |
| 1206L150SL    | -K      | 1.50                     | 3.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 0.30        | 0.010                | 0.055                 | X                | X       |
| 1206L110/12SL | -H1     | 1.10                     | 2.20                     | 12                        | 50                      | 0.8                        | 8.00                 | 0.30        | 0.015                | 0.130                 | X                | X       |
| 1206L150/12SL | -K1     | 1.50                     | 3.00                     | 12                        | 50                      | 0.8                        | 8.00                 | 0.50        | 0.010                | 0.080                 | X                | X       |
| 1206L175SL    | -F      | 1.75                     | 3.50                     | 6                         | 50                      | 0.8                        | 8.00                 | 0.40        | 0.005                | 0.030                 | X                | X       |
| 1206L200SL    | -L      | 2.00                     | 4.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 0.50        | 0.005                | 0.025                 | X                | X       |
| 1206L260SLTH  | -S      | 2.60                     | 5.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 4.00        | 0.003                | 0.026                 | X                | X       |
| 1206L260/12SL | -S1     | 2.60                     | 5.00                     | 12                        | 50                      | 0.8                        | 8.00                 | 4.00        | 0.003                | 0.055                 | X                | X       |
| 1206L300SLTH  | -N      | 3.00                     | 6.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 4.00        | 0.003                | 0.020                 | X                | X       |
| 1206L300/12SL | -N1     | 3.00                     | 6.00                     | 12                        | 50                      | 0.8                        | 8.00                 | 4.00        | 0.003                | 0.030                 | X                | X       |
| 1206L350SLTH  | -T      | 3.50                     | 7.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 5.00        | 0.003                | 0.018                 | X                | X       |
| 1206L350/12SL | CT      | 3.50                     | 7.00                     | 12                        | 50                      | 0.8                        | 8.00                 | 5.00        | 0.003                | 0.020                 | X                | X       |
| 1206L380SLTH* | -V      | 2.82*                    | 8.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 5.00        | 0.002                | 0.014                 | X                | X       |
| 1206L400SL    | -Y      | 4.00                     | 8.00                     | 6                         | 50                      | 0.8                        | 20.00                | 2.00        | 0.001                | 0.016                 | X                | X       |
| 1206L400/12SL | CY      | 4.00                     | 8.00                     | 12                        | 50                      | 0.8                        | 20.00                | 2.00        | 0.003                | 0.016                 | X                | X       |
| 1206L450SL    | -Z      | 4.50                     | 9.00                     | 6                         | 50                      | 0.8                        | 22.50                | 2.00        | 0.001                | 0.014                 | X                | X       |
| 1206L450/12SL | CZ      | 4.50                     | 9.00                     | 12                        | 50                      | 1.0                        | 22.50                | 2.00        | 0.003                | 0.014                 | X                | X       |
| 1206L500SL-V  | -M      | 5.00                     | 10.00                    | 6                         | 50                      | 1.0                        | 25.00                | 2.00        | 0.001                | 0.012                 | X                | X       |
| 1206L500/12SL | CM      | 5.00                     | 10.00                    | 12                        | 50                      | 1.0                        | 25.00                | 2.00        | 0.001                | 0.012                 | X                | X       |
| 1206L600SL    | -W      | 6.00                     | 12.00                    | 6                         | 50                      | 1.0                        | 30.00                | 2.00        | 0.001                | 0.010                 | X                | X       |
| 1210L175SL    | -J      | 1.75                     | 3.50                     | 6                         | 50                      | 0.8                        | 8.00                 | 2.50        | 0.006                | 0.040                 | X                | X       |
| 1210L200SL    | -L      | 2.00                     | 4.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 3.00        | 0.005                | 0.024                 | X                | X       |
| 1210L260SL    | -S      | 2.60                     | 5.00                     | 6                         | 50                      | 0.8                        | 8.00                 | 4.00        | 0.003                | 0.020                 | X                | X       |
| 1210L300SL    | -N      | 3.00                     | 6.00                     | 6                         | 50                      | 0.8                        | 15.00                | 2.00        | 0.003                | 0.020                 | X                | X       |
| 1210L350SL    | -T      | 3.50                     | 7.00                     | 6                         | 50                      | 0.8                        | 17.50                | 2.00        | 0.003                | 0.018                 | X                | X       |
| 1210L380SL    | -X      | 3.80                     | 8.00                     | 6                         | 50                      | 1.0                        | 8.00                 | 5.00        | 0.002                | 0.016                 | X                | X       |
| 1210L400SL    | -V      | 4.00                     | 8.00                     | 6                         | 50                      | 1.0                        | 8.00                 | 5.00        | 0.001                | 0.014                 | X                | X       |
| 1210L450SL    | -Y      | 4.50                     | 9.00                     | 6                         | 50                      | 1.0                        | 22.50                | 2.00        | 0.001                | 0.014                 | X                | X       |
| 1210L450/12SL | CY      | 4.50                     | 9.00                     | 12                        | 50                      | 1.2                        | 22.50                | 2.00        | 0.001                | 0.014                 | Pending          | Pending |
| 1210L500SL    | -M      | 5.00                     | 10.00                    | 6                         | 50                      | 1.2                        | 25.00                | 2.00        | 0.001                | 0.012                 | X                | X       |
| 1210L500/12SL | CM      | 5.00                     | 10.00                    | 12                        | 50                      | 1.2                        | 25.00                | 2.00        | 0.001                | 0.012                 | X                | X       |
| 1210L550SL    | -R      | 5.50                     | 11.00                    | 6                         | 50                      | 1.2                        | 27.50                | 2.00        | 0.001                | 0.011                 | X                | X       |
| 1210L600SL    | -W      | 6.00                     | 12.00                    | 6                         | 50                      | 1.2                        | 30.00                | 2.00        | 0.001                | 0.010                 | X                | X       |
| 1210L900SL    | -Z      | 9.00                     | 18.00                    | 6                         | 50                      | 1.4                        | 45.00                | 2.00        | 0.001                | 0.0055                | X                | X       |
| 1812L190SL    | LF-19   | 1.90                     | 4.90                     | 6                         | 50                      | 1.0                        | 9.50                 | 4.50        | 0.003                | 0.025                 | X                | X       |
| 1812L260SL    | LF-26   | 2.60                     | 6.00                     | 6                         | 50                      | 1.0                        | 13.00                | 2.00        | 0.003                | 0.024                 | X                | X       |
| 1812L270SL    | LF-27   | 2.70                     | 6.20                     | 6                         | 50                      | 1.0                        | 13.50                | 2.00        | 0.003                | 0.022                 | X                | X       |
| 1812L300SL    | LF-30   | 3.00                     | 7.00                     | 6                         | 50                      | 1.0                        | 8.00                 | 5.00        | 0.003                | 0.021                 | X                | X       |
| 1812L300/24SL | LF 30J  | 3.00                     | 6.00                     | 24                        | 50                      | 2.0                        | 15.00                | 2.00        | 0.001                | 0.030                 | X                | X       |
| 1812L350SL**  | LF-35   | 3.50                     | 8.10                     | 6                         | 50                      | 1.0                        | 8.00                 | 5.00        | 0.003                | 0.020**               | X                | X       |
| 1812L370SL    | LF-37   | 3.70                     | 9.10                     | 6                         | 50                      | 1.0                        | 18.50                | 2.00        | 0.003                | 0.018                 | X                | X       |
| 2920L500/24SL | LF 50J  | 5.00                     | 10.00                    | 24                        | 50                      | 2.2                        | 25.00                | 2.00        | 0.001                | 0.018                 | X                | X       |
| 2920L600/24SL | LF 60J  | 6.00                     | 12.00                    | 24                        | 50                      | 2.5                        | 30.00                | 2.00        | 0.001                | 0.012                 | X                | X       |
| 2920L700SL*** | LF700   | 7.00                     | 14.00                    | 6                         | 50                      | 2.2                        | 35.00                | 2.0         | 0.001                | 0.007                 | X                | X       |
| 2920L700/24SL | LF 70J  | 7.00                     | 14.00                    | 24                        | 50                      | 2.5                        | 35.00                | 2.00        | 0.001                | 0.010                 | X                | X       |

Notes: 0805L150SL and 1206L150SL are ideal for overcurrent protection in VBUS of USB 3.0 / USB 2.0 ports.

\* 1206L380SLTH has I<sub>hold</sub> 2.82A for at least 15min @ 55°C. It is ideal for overcurrent protection in Li-ion / Li-Polymer battery packs of smartphones.

\*\* 1812L350SL Typical Time-To-Trip is 50A at 0.013-0.020 seconds. R<sub>1min</sub>=0.015ohm (resistance range 0.015-0.025ohm).

\*\*\* 2920L700SL is ideal for overcurrent protection in Li-ion / Li-Polymer battery packs of tablet PC.

# Low Rho Series

## PolySwitch Resettable PPTC

### Temperature Derating

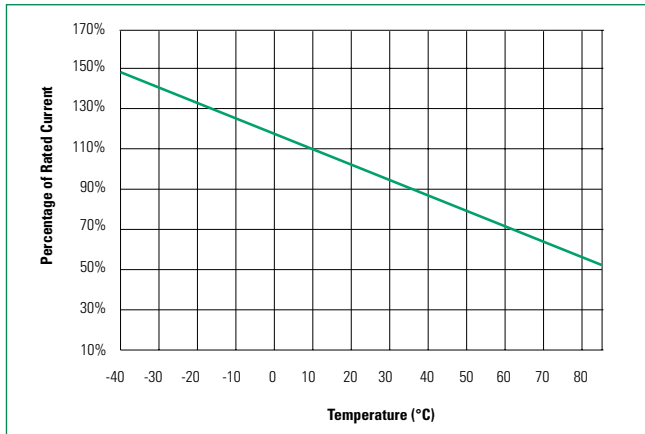
| Part Number   | Ambient Operation Temperature |       |       |      |      |      |      |      |
|---------------|-------------------------------|-------|-------|------|------|------|------|------|
|               | -40°C                         | -20°C | 0°C   | 20°C | 40°C | 60°C | 70°C | 85°C |
|               | Hold Current (A)              |       |       |      |      |      |      |      |
| 0402L010SL    | 0.14                          | 0.13  | 0.11  | 0.10 | 0.09 | 0.07 | 0.06 | 0.05 |
| 0402L020SL    | 0.29                          | 0.26  | 0.23  | 0.20 | 0.18 | 0.15 | 0.13 | 0.09 |
| 0402L035SL    | 0.50                          | 0.45  | 0.40  | 0.35 | 0.31 | 0.26 | 0.22 | 0.16 |
| 0402L050SL    | 0.71                          | 0.64  | 0.57  | 0.50 | 0.44 | 0.37 | 0.31 | 0.23 |
| 0402L075SL    | 1.05                          | 0.95  | 0.85  | 0.75 | 0.65 | 0.55 | 0.45 | 0.30 |
| 0402L100SL    | 1.40                          | 1.25  | 1.10  | 1.00 | 0.85 | 0.70 | 0.60 | 0.40 |
| 0603L050SL    | 0.81                          | 0.71  | 0.62  | 0.50 | 0.41 | 0.30 | 0.24 | 0.16 |
| 0603L075SL    | 1.23                          | 1.08  | 0.94  | 0.75 | 0.61 | 0.45 | 0.36 | 0.23 |
| 0603L100SL    | 1.35                          | 1.25  | 1.10  | 1.00 | 0.82 | 0.65 | 0.52 | 0.35 |
| 0603L150SL    | 2.40                          | 2.10  | 1.80  | 1.50 | 1.25 | 0.95 | 0.80 | 0.50 |
| 0603L175SL    | 2.50                          | 2.25  | 2.00  | 1.75 | 1.55 | 1.30 | 1.10 | 0.80 |
| 0603L200SL-V  | 2.85                          | 2.60  | 2.30  | 2.00 | 1.70 | 1.45 | 1.25 | 1.05 |
| 0603L300SL    | 4.70                          | 4.15  | 3.60  | 3.00 | 2.50 | 2.00 | 1.65 | 1.20 |
| 0805L075SL    | 1.15                          | 1.00  | 0.85  | 0.75 | 0.55 | 0.40 | 0.30 | 0.20 |
| 0805L110SL    | 1.70                          | 1.50  | 1.30  | 1.10 | 0.85 | 0.60 | 0.50 | 0.30 |
| 0805L150SL    | 2.25                          | 2.00  | 1.75  | 1.50 | 1.15 | 0.85 | 0.65 | 0.45 |
| 0805L175SL    | 2.60                          | 2.30  | 2.00  | 1.75 | 1.30 | 0.95 | 0.75 | 0.50 |
| 0805L200SLTH  | 3.10                          | 2.75  | 2.40  | 2.00 | 1.65 | 1.15 | 0.95 | 0.65 |
| 0805L260SLTH  | 3.80                          | 3.30  | 2.90  | 2.60 | 2.20 | 1.75 | 1.50 | 1.05 |
| 0805L300SL    | 4.70                          | 4.15  | 3.60  | 3.00 | 2.50 | 2.00 | 1.65 | 1.20 |
| 0805L300SLTH  | 3.90                          | 3.60  | 3.30  | 3.00 | 2.60 | 2.10 | 1.90 | 1.60 |
| 0805L350SL    | 5.05                          | 4.55  | 4.00  | 3.50 | 3.00 | 2.55 | 2.25 | 1.90 |
| 0805L400SL    | 5.80                          | 5.20  | 4.60  | 4.00 | 3.40 | 3.00 | 2.60 | 2.20 |
| 1206L075SL    | 1.30                          | 1.13  | 0.92  | 0.75 | 0.58 | 0.38 | 0.31 | 0.14 |
| 1206L110SL    | 1.90                          | 1.65  | 1.35  | 1.10 | 0.85 | 0.55 | 0.45 | 0.20 |
| 1206L150SL    | 2.65                          | 2.30  | 1.90  | 1.50 | 1.15 | 0.70 | 0.50 | 0.25 |
| 1206L110/12SL | 1.65                          | 1.45  | 1.30  | 1.10 | 0.85 | 0.65 | 0.55 | 0.30 |
| 1206L150/12SL | 2.25                          | 2.00  | 1.80  | 1.50 | 1.20 | 0.90 | 0.75 | 0.55 |
| 1206L175SL    | 2.60                          | 2.45  | 2.00  | 1.75 | 1.35 | 1.05 | 0.90 | 0.60 |
| 1206L200SL    | 2.95                          | 2.80  | 2.30  | 2.00 | 1.55 | 1.20 | 1.00 | 0.70 |
| 1206L260SLTH  | 4.05                          | 3.60  | 3.12  | 2.60 | 2.15 | 1.70 | 1.40 | 1.00 |
| 1206L260/12SL | 3.70                          | 3.40  | 3.00  | 2.60 | 2.20 | 1.75 | 1.55 | 1.05 |
| 1206L300SLTH  | 4.70                          | 4.15  | 3.60  | 3.00 | 2.50 | 2.00 | 1.65 | 1.20 |
| 1206L300/12SL | 4.25                          | 3.90  | 3.45  | 3.00 | 2.50 | 2.00 | 1.75 | 1.20 |
| 1206L350SLTH  | 5.50                          | 4.85  | 4.15  | 3.50 | 2.85 | 2.25 | 1.90 | 1.40 |
| 1206L350/12SL | 5.25                          | 4.65  | 4.20  | 3.50 | 2.80 | 2.10 | 1.75 | 1.25 |
| 1206L380SLTH  | 5.59                          | 5.05  | 4.48  | 3.80 | 3.23 | 2.70 | 2.17 | 1.98 |
| 1206L400SL    | 5.75                          | 5.25  | 4.65  | 4.00 | 3.40 | 2.75 | 2.40 | 1.65 |
| 1206L400/12SL | 6.00                          | 5.30  | 4.80  | 4.00 | 3.20 | 2.40 | 2.00 | 1.40 |
| 1206L450SL    | 6.50                          | 5.95  | 5.25  | 4.50 | 3.85 | 3.10 | 2.70 | 1.90 |
| 1206L450/12SL | 6.75                          | 5.95  | 5.40  | 4.50 | 3.60 | 2.70 | 2.25 | 1.60 |
| 1206L500SL-V  | 7.20                          | 6.50  | 5.85  | 5.00 | 4.45 | 3.75 | 3.40 | 2.85 |
| 1206L500/12SL | 7.20                          | 6.60  | 5.80  | 5.00 | 4.25 | 3.40 | 3.00 | 2.10 |
| 1206L600SL    | 8.65                          | 7.80  | 7.00  | 6.00 | 5.30 | 4.50 | 4.05 | 3.40 |
| 1210L175SL    | 2.65                          | 2.30  | 2.05  | 1.75 | 1.40 | 1.05 | 0.90 | 0.60 |
| 1210L200SL    | 3.30                          | 2.80  | 2.40  | 2.00 | 1.90 | 1.60 | 1.40 | 1.00 |
| 1210L260SL    | 4.20                          | 3.75  | 3.30  | 2.60 | 2.20 | 1.70 | 1.45 | 1.05 |
| 1210L300SL    | 4.70                          | 4.15  | 3.60  | 3.00 | 2.50 | 1.90 | 1.70 | 1.20 |
| 1210L350SL    | 5.00                          | 4.60  | 4.05  | 3.50 | 2.80 | 2.00 | 1.75 | 1.20 |
| 1210L380SL    | 5.70                          | 5.10  | 4.40  | 3.80 | 3.20 | 2.25 | 1.80 | 1.30 |
| 1210L400SL    | 5.70                          | 5.25  | 4.60  | 4.00 | 3.20 | 2.25 | 1.90 | 1.30 |
| 1210L450SL    | 7.15                          | 6.25  | 5.30  | 4.50 | 3.45 | 2.50 | 2.00 | 0.85 |
| 1210L450/12SL | 6.45                          | 5.85  | 5.15  | 4.50 | 3.95 | 3.30 | 3.00 | 2.45 |
| 1210L500SL    | 7.20                          | 6.50  | 5.85  | 5.00 | 4.45 | 3.75 | 3.40 | 2.85 |
| 1210L500/12SL | 7.20                          | 6.50  | 5.75  | 5.00 | 4.40 | 3.75 | 3.35 | 2.75 |
| 1210L550SL    | 8.00                          | 7.15  | 6.35  | 5.50 | 4.90 | 4.10 | 3.70 | 3.05 |
| 1210L600SL    | 8.65                          | 7.80  | 7.00  | 6.00 | 5.30 | 4.50 | 4.05 | 3.40 |
| 1210L900SL    | 13.05                         | 11.70 | 10.40 | 9.00 | 8.00 | 6.75 | 6.05 | 5.00 |
| 1812L190SL    | 2.91                          | 2.57  | 2.20  | 1.90 | 1.78 | 1.50 | 1.40 | 1.05 |
| 1812L260SL    | 4.00                          | 3.65  | 2.90  | 2.60 | 1.90 | 1.60 | 1.20 | 0.85 |
| 1812L270SL    | 3.86                          | 3.55  | 3.12  | 2.70 | 2.16 | 1.54 | 1.35 | 0.93 |
| 1812L300SL    | 4.35                          | 3.90  | 3.45  | 3.00 | 2.65 | 2.25 | 2.00 | 1.65 |
| 1812L300/24SL | 4.95                          | 4.35  | 3.75  | 3.00 | 2.45 | 1.85 | 1.55 | 1.05 |
| 1812L350SL    | 5.40                          | 4.95  | 3.90  | 3.50 | 2.60 | 2.15 | 1.65 | 1.20 |
| 1812L370SL    | 5.75                          | 5.15  | 4.35  | 3.70 | 2.85 | 2.30 | 1.90 | 1.50 |
| 2920L500/24SL | 8.20                          | 7.25  | 6.25  | 5.00 | 4.25 | 3.25 | 2.80 | 2.05 |
| 2920L600/24SL | 10.15                         | 8.90  | 7.65  | 6.00 | 5.15 | 3.90 | 3.25 | 2.35 |
| 2920L700SL    | 10.00                         | 9.20  | 8.10  | 7.00 | 5.60 | 4.00 | 3.50 | 2.40 |
| 2920L700/24SL | 11.52                         | 10.08 | 8.65  | 7.00 | 5.78 | 4.35 | 3.63 | 2.55 |

Notes: The temperature derating data is for reference only. Please contact Littelfuse technical support for detail temperature derating information.

# Low Rho Series

## PolySwitch Resettable PPTC

### Temperature Derating Curve



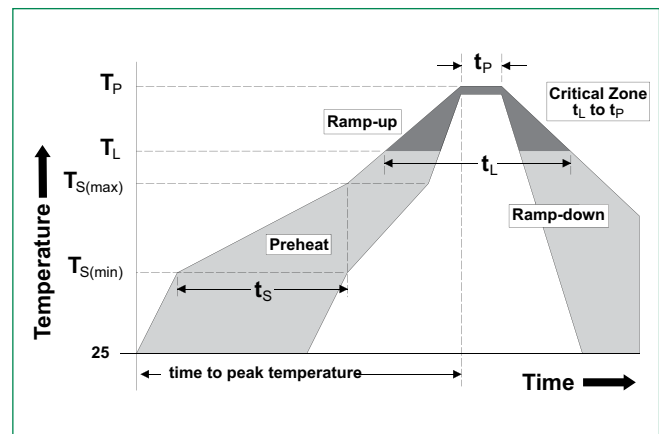
### Environmental Specifications

|   |   |
|---|---|
| Operating Temperature                               | -40°C to +85°C  |
| Maximum Device Surface Temperature in Tripped State | 125°C   |
| Passive Aging                                       | +85°C, 1000 hours<br>-/+10% typical resistance change                             |
| Humidity Aging                                      | +85°C, 85% R.H., 100 hours<br>-/+15% typical resistance change                    |
| Thermal Shock                                       | MIL-STD-202, Method 107<br>+85°C/-40°C 20 times<br>-30% typical resistance change |
| Solvent Resistance                                  | MIL-STD-202, Method 215<br>No change  |
| Vibration   | MIL-STD-883, Method 2007, Condition A<br>No change                                |
| Moisture Sensitivity Level                          | Level 1, J-STD-020  |

Note: MSL level 2a for 2920 size product

### Soldering Parameters

|   |  |                         |
|---|--|-------------------------|
| Profile Feature   |  | Pb-Free Assembly        |
| Average Ramp-Up Rate (T <sub>S(max)</sub> to T <sub>p</sub> ) |  | 3°C/second max          |
| Pre Heat:   | Temperature Min (T <sub>S(min)</sub> ) | 150°C                   |
|   | Temperature Max (T <sub>S(max)</sub> ) | 200°C                   |
|   | Time (Min to Max) (t <sub>s</sub> )    | 60 – 180 secs           |
| Time Maintained Above:  | Temperature (T <sub>L</sub> )          | 217°C                   |
|   | Temperature (t <sub>L</sub> )          | 60 – 150 seconds        |
| Peak / Classification Temperature (T <sub>P</sub> )           |  | 260 <sup>+0/-5</sup> °C |
| Time within 5°C of actual peak Temperature (t <sub>p</sub> )  |  | 20 – 40 seconds         |
| Ramp-down Rate  |  | 6°C/second max          |
| Time 25°C to peak Temperature (T <sub>P</sub> )               |  | 8 minutes Max.          |



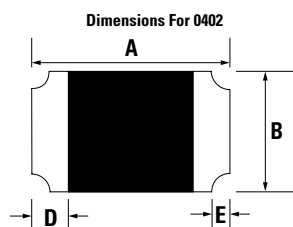
- All temperature refer to topside of the package, measured on the package body surface
- If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead

- Recommended maximum paste thickness is 0.25mm (0.010 inch)
- Devices can be cleaned using standard industry methods and solvents
- Devices can be reworked using the standard industry practices

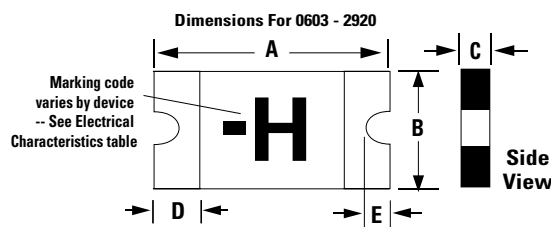
### Physical Specifications

|                    |  |
|--------------------|--|
| Terminal Material  | Solder-Plated Copper<br>(Solder Material: Matte Tin (Sn))        |
| Lead Solderability | Meets EIA Specification RS186-9E,<br>ANSI/J-STD-002, Category 3. |

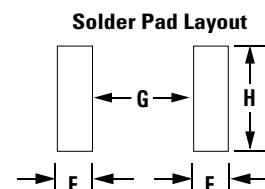
### Dimensions



Device Top and Bottom Marking and Dimensions are Similar



Device Top and Bottom Marking and Dimensions are Similar



| Part Number  | Device Dimension |      |      |      |      |      |      |      |      |      |      |      |       |      |      |      | Solder Pad |      |      |      |      |      |      |      |      |      |
|--------------|------------------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------------|------|------|------|------|------|------|------|------|------|
|              | A                |      |      |      | B    |      |      |      | C    |      |      |      | D     |      |      |      | E          |      |      |      | F    |      | G    |      | H    |      |
|              | inch             |      | mm   |      | inch |      | mm   |      | inch |      | mm   |      | inch  |      | mm   |      | inch       |      | mm   |      | In   | mm   | In   | mm   | In   | mm   |
|              | Min              | Max  | Min  | Max  | Min  | Max  | Min  | Max  | Min  | Max  | Min  | Max  | Min   | Max  | Min  | Max  | Min        | Max  | Min  | Max  | In   | mm   | In   | mm   | In   | mm   |
| 0402L010SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0402L020SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0402L035SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0402L050SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0402L075SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0402L100SL   | 0.03             | 0.05 | 0.85 | 1.15 | 0.01 | 0.03 | 0.35 | 0.65 | 0.01 | 0.02 | 0.20 | 0.60 | 0.004 | 0.02 | 0.10 | 0.45 | -          | 0.02 | -    | 0.40 | 0.02 | 0.60 | 0.02 | 0.40 | 0.03 | 0.70 |
| 0603L050SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.03 | 0.40 | 0.75 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L075SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.03 | 0.40 | 0.75 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L100SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.03 | 0.40 | 0.75 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L150SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.04 | 0.40 | 1.00 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L175SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.04 | 0.40 | 1.00 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L200SL-V | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.04 | 0.40 | 1.00 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0603L300SL   | 0.06             | 0.07 | 1.40 | 1.80 | 0.02 | 0.04 | 0.60 | 1.00 | 0.02 | 0.04 | 0.40 | 1.00 | 0.01  | 0.02 | 0.15 | 0.50 | -          | 0.02 | -    | 0.40 | 0.04 | 1.00 | 0.03 | 0.80 | 0.04 | 1.00 |
| 0805L075SL   | 0.08             | 0.09 | 2.00 | 2.20 | 0.05 | 0.06 | 1.20 | 1.50 | 0.02 | 0.03 | 0.40 | 0.75 | 0.01  | 0.02 | 0.20 | 0.55 | 0.002      | 0.02 | 0.05 | 0.45 | 0.04 | 1.00 | 0.05 | 1.20 | 0.06 | 1.50 |
| 0805L110SL   | 0.08             | 0.09 | 2.00 | 2.20 | 0.05 | 0.06 | 1.20 | 1.50 | 0.02 | 0.03 | 0.40 | 0.75 | 0.01  | 0.02 | 0.20 | 0.55 | 0.002      | 0.02 | 0.05 | 0.45 | 0.04 | 1.00 | 0.05 | 1.20 | 0.06 | 1.50 |
| 0805L150SL   |                  |      |      |      |      |      |      |      |      |      |      |      |       |      |      |      |            |      |      |      |      |      |      |      |      |      |

# Low Rho Series

## PolySwitch Resettable PPTC

### Packaging

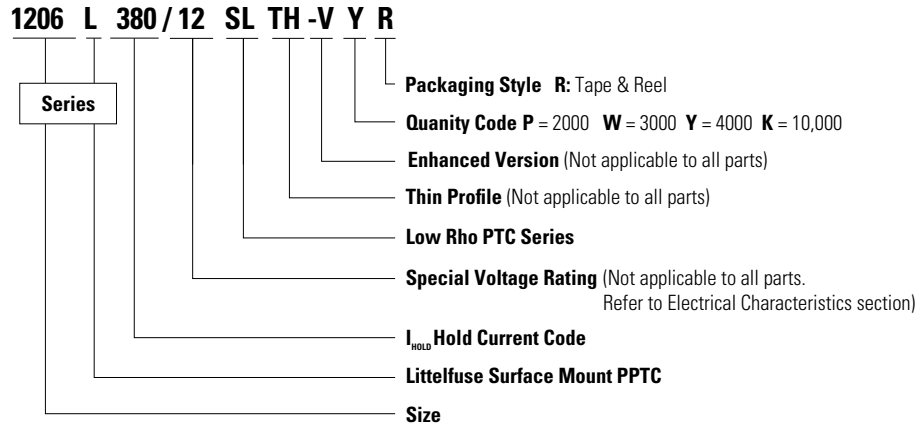
| Part Number   | Ordering Number | I <sub>hold</sub> (A) | I <sub>hold</sub> Code | Packaging Option | Quantity | Quantity & Packaging Codes |
|---------------|-----------------|-----------------------|------------------------|------------------|----------|----------------------------|
| 0402L010SL    | 0402L010SLKR    | 0.10                  | 010                    | Tape & Reel      | 10,000   | KR                         |
| 0402L020SL    | 0402L020SLKR    | 0.20                  | 020                    |                  | 10,000   | KR                         |
| 0402L035SL    | 0402L035SLKR    | 0.35                  | 035                    |                  | 10,000   | KR                         |
| 0402L050SL    | 0402L050SLKR    | 0.50                  | 050                    |                  | 10,000   | KR                         |
| 0402L075SL    | 0402L075SLKR    | 0.75                  | 075                    |                  | 10,000   | KR                         |
| 0402L100SL    | 0402L100SLKR    | 1.00                  | 100                    |                  | 10,000   | KR                         |
| 0603L050SL    | 0603L050SLYR    | 0.50                  | 050                    |                  | 4,000    | YR                         |
| 0603L075SL    | 0603L075SLYR    | 0.75                  | 075                    |                  | 4,000    | YR                         |
| 0603L100SL    | 0603L100SLYR    | 1.00                  | 100                    |                  | 4,000    | YR                         |
| 0603L150SL    | 0603L150SLYR    | 1.50                  | 150                    |                  | 4,000    | YR                         |
| 0603L175SL    | 0603L175SLYR    | 1.75                  | 175                    |                  | 4,000    | YR                         |
| 0603L200SLV   | 0603L200SLVYR   | 2.00                  | 200                    |                  | 4,000    | YR                         |
| 0603L300SL    | 0603L300SLYR    | 3.00                  | 300                    |                  | 4,000    | YR                         |
| 0805L075SL    | 0805L075SLYR    | 0.75                  | 075                    |                  | 4,000    | YR                         |
| 0805L110SL    | 0805L110SLYR    | 1.10                  | 110                    |                  | 4,000    | YR                         |
| 0805L150SL    | 0805L150SLYR    | 1.50                  | 150                    |                  | 4,000    | YR                         |
| 0805L175SL    | 0805L175SLYR    | 1.75                  | 175                    |                  | 4,000    | YR                         |
| 0805L200SLTH  | 0805L200SLTHYR  | 2.00                  | 200                    |                  | 4,000    | YR                         |
| 0805L260SLTH  | 0805L260SLTHYR  | 2.60                  | 260                    |                  | 4,000    | YR                         |
| 0805L300SL    | 0805L300SLWR    | 3.00                  | 300                    |                  | 3,000    | WR                         |
| 0805L300SLTH  | 0805L300SLTHYR  | 3.00                  | 300                    |                  | 4,000    | YR                         |
| 0805L350SL    | 0805L350SLYR    | 3.50                  | 350                    |                  | 4,000    | YR                         |
| 0805L400SL    | 0805L400SLWR    | 4.00                  | 400                    |                  | 3000     | WR                         |
| 1206L075SL    | 1206L075SLYR    | 0.75                  | 075                    |                  | 4,000    | YR                         |
| 1206L110SL    | 1206L110SLYR    | 1.10                  | 110                    |                  | 4,000    | YR                         |
| 1206L150SL    | 1206L150SLYR    | 1.50                  | 150                    |                  | 4,000    | YR                         |
| 1206L110/12SL | 1206L110/12SLYR | 1.10                  | 110                    |                  | 4,000    | YR                         |
| 1206L150/12SL | 1206L150/12SLYR | 1.50                  | 150                    |                  | 4,000    | YR                         |
| 1206L175SL    | 1206L175SLYR    | 1.75                  | 175                    |                  | 4,000    | YR                         |
| 1206L200SL    | 1206L200SLYR    | 2.00                  | 200                    |                  | 4,000    | YR                         |
| 1206L260SLTH  | 1206L260SLTHYR  | 2.60                  | 260                    |                  | 4,000    | YR                         |
| 1206L260/12SL | 1206L260/12SLYR | 2.60                  | 260                    |                  | 4,000    | YR                         |
| 1206L300SLTH  | 1206L300SLTHYR  | 3.00                  | 300                    |                  | 4,000    | YR                         |
| 1206L300/12SL | 1206L300/12SLYR | 3.00                  | 300                    |                  | 4,000    | YR                         |
| 1206L350SLTH  | 1206L350SLTHYR  | 3.50                  | 350                    |                  | 4,000    | YR                         |
| 1206L350/12SL | 1206L350/12SLWR | 3.50                  | 350                    |                  | 3,000    | WR                         |
| 1206L380SLTH* | 1206L380SLTHYR  | 2.82*                 | 380                    |                  | 4,000    | YR                         |
| 1206L400SL    | 1206L400SLWR    | 4.00                  | 400                    |                  | 3,000    | WR                         |
| 1206L400/12SL | 1206L400/12SLWR | 4.00                  | 400                    |                  | 3,000    | WR                         |
| 1206L450SL    | 1206L450SLWR    | 4.50                  | 450                    |                  | 3,000    | WR                         |
| 1206L450/12SL | 1206L450/12SLWR | 4.50                  | 450                    |                  | 3,000    | WR                         |
| 1206L500SLV   | 1206L500SLVWR   | 5.00                  | 500                    |                  | 3,000    | WR                         |
| 1206L500/12SL | 1206L500/12SLPR | 5.00                  | 500                    |                  | 2,000    | PR                         |
| 1206L600SL    | 1206L600SLWR    | 6.00                  | 600                    |                  | 3,000    | WR                         |
| 1210L175SL    | 1210L175SLYR    | 1.75                  | 175                    |                  | 4,000    | YR                         |
| 1210L200SL    | 1210L200SLYR    | 2.00                  | 200                    |                  | 4,000    | YR                         |
| 1210L260SL    | 1210L260SLYR    | 2.60                  | 260                    |                  | 4,000    | YR                         |
| 1210L300SL    | 1210L300SLWR    | 3.00                  | 300                    |                  | 3,000    | WR                         |
| 1210L350SL    | 1210L350SLWR    | 3.50                  | 350                    |                  | 3,000    | WR                         |
| 1210L380SL    | 1210L380SLYR    | 3.80                  | 380                    |                  | 4,000    | YR                         |
| 1210L400SL    | 1210L400SLWR    | 4.00                  | 400                    |                  | 3,000    | WR                         |
| 1210L450SL    | 1210L450SLWR    | 4.50                  | 450                    |                  | 3,000    | WR                         |
| 1210L450/12SL | 1210L450/12SLWR | 4.50                  | 450                    |                  | 3,000    | WR                         |
| 1210L500SL    | 1210L500SLWR    | 5.00                  | 500                    |                  | 3,000    | WR                         |
| 1210L500/12SL | 1210L500/12SLWR | 5.00                  | 500                    |                  | 3,000    | WR                         |
| 1210L550SL    | 1210L550SLWR    | 5.50                  | 550                    |                  | 3,000    | WR                         |
| 1210L600SL    | 1210L600SLWR    | 6.00                  | 600                    |                  | 3,000    | WR                         |
| 1210L900SL    | 1210L900SLPR    | 9.00                  | 900                    |                  | 2,000    | PR                         |
| 1812L190SL    | 1812L190SLPR    | 1.90                  | 190                    |                  | 2,000    | PR                         |
| 1812L260SL    | 1812L260SLPR    | 2.60                  | 260                    |                  | 2,000    | PR                         |
| 1812L270SL    | 1812L270SLPR    | 2.70                  | 270                    |                  | 2,000    | PR                         |
| 1812L300SL    | 1812L300SLPR    | 3.00                  | 300                    |                  | 2,000    | PR                         |
| 1812L300/24SL | 1812L300/24SLER | 3.00                  | 300                    |                  | 2,500    | ER                         |
| 1812L350SL    | 1812L350SLPR    | 3.50                  | 350                    |                  | 2,000    | PR                         |
| 1812L370SL    | 1812L370SLPR    | 3.70                  | 370                    |                  | 2,000    | PR                         |
| 2920L500/24SL | 2920L500/24SLDR | 5.00                  | 500                    |                  | 1,500    | DR                         |
| 2920L600/24SL | 2920L600/24SLER | 6.00                  | 600                    |                  | 2,500    | ER                         |
| 2920L700SL    | 2920L700SLPR    | 7.00                  | 700                    |                  | 2,000    | PR                         |
| 2920L700/24SL | 2920L700/24SLER | 7.00                  | 700                    |                  | 2,500    | ER                         |

Notes: \*1206L380SLTH has I<sub>hold</sub> 2.82A for at least 15min @ 55°C.

# Low Rho Series

## PolySwitch Resettable PPTC

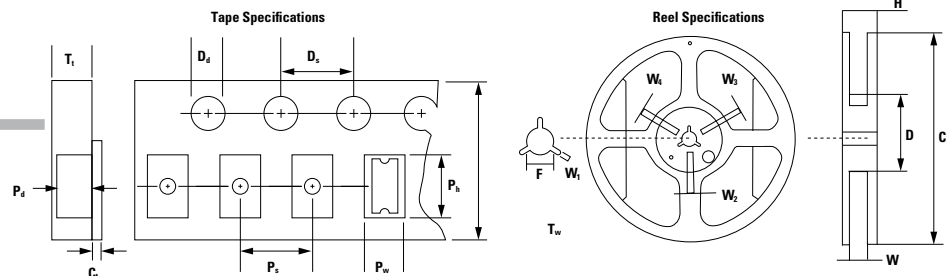
### Part Ordering Number System



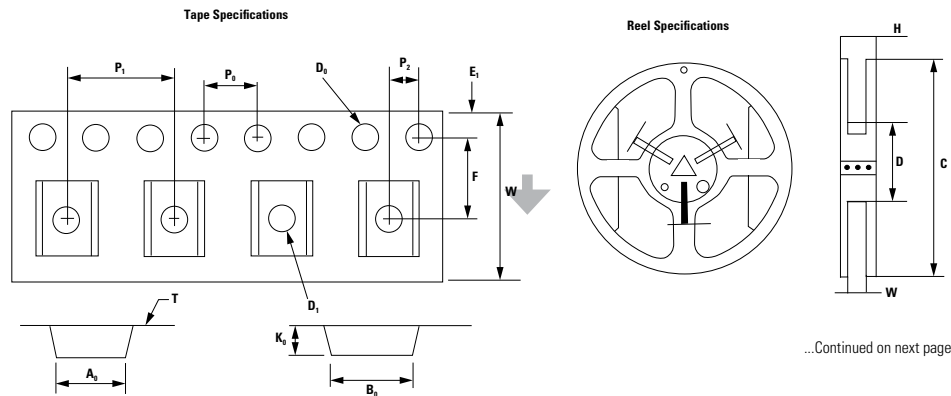
### Tape & Reel Specifications

#### Dimensions for 0402 size product (see table at left)

| Symbol                                 | 0402L010SL<br>0402L020SL<br>0402L035SL<br>0402L050SL<br>0402L075SL<br>0402L100SL |
|--|--|
| <b>Tape Dimensions: EIA-481-1 (mm)</b> |  |
| C <sub>t</sub>                         | 0.05 ± 0.01  |
| D <sub>d</sub>                         | 1.5 ± 0.1  |
| D <sub>s</sub>                         | 4.0 ± 0.1  |
| P <sub>d</sub>                         | 0.41 ± 0.1   |
| P <sub>h</sub>                         | 1.12 ± 0.1   |
| P <sub>s</sub>                         | 2.0 ± 0.1  |
| P <sub>w</sub>                         | 0.65 ± 0.03  |
| T <sub>t</sub>                         | 0.61 ± 0.1   |
| T <sub>w</sub>                         | 8.0 ± 0.1  |
| Leader min.                            | 390  |
| Trailer min.                           | 160  |
| <b>Reel Dimensions: EIA-481-1 (mm)</b> |  |
| H                                      | 12.0 ± 0.5   |
| W                                      | 9.0 ± 0.5  |
| D                                      | Ø60 ± 0.5  |
| F                                      | Ø13.0 ± 0.2  |
| C                                      | Ø178 ± 1   |
| W <sub>1</sub>                         | 2.2 ± 0.5  |
| W <sub>2</sub>                         | 3.0 ± 0.5  |
| W <sub>3</sub>                         | 4.0 ± 0.5  |
| W <sub>4</sub>                         | 5.5 ± 0.5  |



#### Dimensions for 0603, 0805, 1206, 1210, 1812 & 2920 size product (see tabel below)



...Continued on next page.



# Low Rho Series

## PolySwitch Resettable PPTC

Dimensions for 0603, 0805, 1206, 1210, 1812 & 2920 size product  
(see tabel below)

| Symbol                          | 0603L050SL<br>0603L075SL<br>0603L100SL | 0603L150SL<br>0603L175SL<br>0603L200SL-V<br>0603L300SL | 0805L075SL<br>0805L110SL<br>0805L150SL<br>0805L175SL<br>0805L200SLTH<br>0805L260SLTH<br>0805L300SLTH | 0805L350SL  | 0805L300SL<br>0805L400SL | 1206L075SL<br>1206L110SL<br>1206L150SL<br>1206L110/12SL<br>1206L150/12SL<br>1206L175SL<br>1206L200SL | 1206L260SLTH<br>1206L260/12SL<br>1206L300SLTH<br>1206L300/12SL<br>1206L350SLTH<br>1206L380SLTH | 1206L350/12SL<br>1206L400SL<br>1206L400/12SL<br>1206L450SL<br>1206L450/12SL<br>1206L500SL-V<br>1206L600SL | 1206L500/12SL    | 1210L175SL<br>1210L200SL<br>1210L260SL<br>1210L300SL<br>1210L380SL |
|---------------------------------|--|--|--|-------------|--------------------------|--|--|---|------------------|--|
| Tape Dimensions: EIA-481-1 (mm) |  |  |  |             |                          |  |  |   |                  |  |
| W                               | 8.00 ± 0.30                            | 8.00 ± 0.30  | 8.00 ± 0.10  | 8.00 ± 0.30 | 8.00 ± 0.30              | 8.20 +0.10/-0.30   |  | 8.15 +0.15/-0.30  | 8.20 +0.10/-0.30 | 8.00 ± 0.30  |
| F                               | 3.50 ± 0.05                            | 3.50 ± 0.05  | 3.50 ± 0.05  | 3.50 ± 0.05 | 3.50 ± 0.05              | 3.50 ± 0.05  |  | 3.50 ± 0.05   | 3.50 ± 0.05      | 3.50 ± 0.05  |
| 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  |
| D <sub>0</sub>                  | 1.55 ± 0.05                            | 1.55 ± 0.05  | 1.55 ± 0.05  | 1.55 ± 0.05 | 1.55 ± 0.05              | 1.55 ± 0.05  |  | 1.55 ± 0.05   | 1.55 ± 0.05      | 1.55 ± 0.05  |
| D <sub>1</sub>                  | 0.50 ± 0.10                            | 0.50 ± 0.10  | 1.00 (Min.)  | 1.00 ± 0.10 | 1.00 ± 0.10              | 1.00 ± 0.10  |  | 1.00 ± 0.10   | 1.00 ± 0.10      | 1.00 (Min.)  |
| P <sub>0</sub>                  | 4.00 ± 0.10                            | 4.00 ± 0.10  | 4.00 ± 0.08  | 4.00 ± 0.10 | 4.00 ± 0.10              | 4.00 ± 0.10  |  | 4.00 ± 0.10   | 4.00 ± 0.10      | 4.00 ± 0.10  |
| P <sub>1</sub>                  | 4.00 ± 0.10                            | 4.00 ± 0.10  | 4.00 ± 0.10  | 4.00 ± 0.10 | 4.00 ± 0.10              | 4.00 ± 0.10  |  | 4.00 ± 0.10   | 4.00 ± 0.10      | 4.00 ± 0.10  |
| P <sub>2</sub>                  | 2.00 ± 0.05                            | 2.00 ± 0.05  | 2.00 ± 0.05  | 2.00 ± 0.05 | 2.00 ± 0.05              | 2.00 ± 0.05  |  | 2.00 ± 0.05   | 2.00 ± 0.05      | 2.00 ± 0.05  |
| A <sub>0</sub>                  | 1.10 ± 0.10                            | 1.10 ± 0.10  | 1.60 ± 0.10  | 1.65 ± 0.10 | 1.65 ± 0.10              | 1.95 ± 0.10  |  | 1.92 ± 0.10   | 1.95 ± 0.10      | 2.82 ± 0.10  |
| B <sub>0</sub>                  | 1.92 ± 0.10                            | 1.92 ± 0.10  | 2.30 ± 0.10  | 2.35 ± 0.10 | 2.35 ± 0.10              | 3.65 ± 0.10  |  | 3.65 ± 0.10   | 3.65 ± 0.10      | 3.46 ± 0.10  |
| T                               | 0.20 ± 0.10                            | 0.20 ± 0.10  | 0.25 ± 0.10  | 0.20 ± 0.10 | 0.25 ± 0.10              | 0.20 ± 0.10  |  | 0.25 ± 0.10   | 0.25 ± 0.10      | 0.25 ± 0.10  |
| K <sub>0</sub>                  | 0.72 ± 0.10                            | 0.96 ± 0.10  | 0.90 ± 0.10  | 1.05 ± 0.10 | 1.50 ± 0.10              | 0.87 ± 0.10  |  | 1.30 ± 0.10   | 1.70 ± 0.10      | 1.00 ± 0.10  |
| Leader min.                     | 390                                    |  |  |             |                          |  |  |   |                  |  |
| Trailer min.                    | 160                                    |  |  |             |                          |  |  |   |                  |  |
| Reel Dimensions: EIA-481-1 (mm) |  |  |  |             |                          |  |  |   |                  |  |
| H                               | 11.0 ± 0.5                             |  |  |             |                          |  |  |   |                  |  |
| W                               | 9.0 ± 1.5                              |  |  |             |                          |  |  |   |                  |  |
| C                               | Ø178 ± 1.0                             |  |  |             |                          |  |  |   |                  |  |
| D                               | Ø60.2 ± 0.5                            |  |  |             |                          |  |  |   |                  |  |

| Symbol                          | 1210L350SL<br>1210L400SL<br>1210L450SL<br>1210L450/12SL<br>1210L500SL<br>1210L500/12SL<br>1210L550SL<br>1210L600SL | 1210L900SL  | 1812L190SL<br>1812L260SL<br>1812L270SL<br>1812L300SL<br>1812L350SL<br>1812L370SL | 1812L300/24SL | 2920L500/24SL | 2920L700SL  | 2920L600/24SL<br>2920L700/24SL |              |               |              |              |               |
|---------------------------------|--|-------------|--|---------------|---------------|-------------|--------------------------------|--------------|---------------|--------------|--------------|---------------|
|                                 | Tape Dimensions: EIA-481-1 (mm)  |             |  |               |               |             |                                |              |               |              |              |               |
|                                 | W  |             | 8.00 ± 0.30  |               |               |             | 8.00 ± 0.30                    | 12.00 ± 0.30 | 12.00 ± 0.30  | 16.00 ± 0.30 | 16.00 ± 0.30 | 16.00 ± 0.30  |
|                                 | F  |             | 3.50 ± 0.05  |               |               |             | 3.50 ± 0.05                    | 5.50 ± 0.05  | 5.50 ± 0.05   | 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   |
|                                 | D <sub>0</sub>   |             | 1.55 ± 0.05  |               |               |             | 1.55 ± 0.05                    | 1.55 ± 0.05  | 1.50 +0.10/-0 | 1.55 ± 0.05  | 1.55 ± 0.05  | 1.50 +0.10/-0 |
|                                 | D <sub>1</sub>   |             | 1.00 (Min.)  |               |               |             | 1.00 (Min.)                    | 1.55 (Min.)  | 1.50 +0.10/-0 | 1.50 ± 0.10  | 1.50 ± 0.10  | 1.50 (Min.)   |
|                                 | P <sub>0</sub>   |             | 4.00 ± 0.10  |               |               |             | 4.00 ± 0.10                    | 4.00 ± 0.10  | 4.00 ± 0.10   | 4.00 ± 0.10  | 4.00 ± 0.10  | 4.00 ± 0.10   |
| P <sub>1</sub>                  | 4.00 ± 0.10  | 4.00 ± 0.10 | 8.00 ± 0.10  | 8.00 ± 0.10   | 8.00 ± 0.10   | 8.00 ± 0.10 | 8.00 ± 0.10                    |              |               |              |              |               |
| P <sub>2</sub>                  | 2.00 ± 0.05  | 2.00 ± 0.05 | 2.00 ± 0.05  | 2.00 ± 0.05   | 2.00 ± 0.10   | 2.00 ± 0.10 | 2.00 ± 0.10                    |              |               |              |              |               |
| A <sub>0</sub>                  | 2.82 ± 0.10  | 2.80 ± 0.10 | 3.58 ± 0.10  | 3.55 ± 0.10   | 5.74 ± 0.10   | 5.74 ± 0.10 | 5.60 ± 0.10                    |              |               |              |              |               |
| B <sub>0</sub>                  | 3.50 ± 0.10  | 3.50 ± 0.10 | 4.93 ± 0.10  | 4.88 ± 0.10   | 8.02 ± 0.10   | 8.02 ± 0.10 | 7.95 ± 0.10                    |              |               |              |              |               |
| T                               | 0.20 ± 0.10  | 0.25 ± 0.10 | 0.25 ± 0.05  | 0.30 ± 0.05   | 0.30 ± 0.10   | 0.30 ± 0.10 | 0.30 ± 0.05                    |              |               |              |              |               |
| K <sub>0</sub>                  | 1.30 ± 0.10  | 1.60 ± 0.10 | 0.87 ± 0.06  | 2.45 ± 0.10   | 1.30 ± 0.10   | 0.91 ± 0.10 | 2.55 ± 0.10                    |              |               |              |              |               |
| Leader min.                     | 390  |             |  |               |               |             |                                |              |               |              |              |               |
| Trailer min.                    | 160  |             |  |               |               |             |                                |              |               |              |              |               |
| Reel Dimensions: EIA-481-1 (mm) |  |             |  |               |               |             |                                |              |               |              |              |               |
| H                               | 11.0 ± 0.5   |             | 16.0 ± 0.5   | 17.4 ± 1.0    | 19.5 ± 1.0    |             | 21.4 ± 1.0                     |              |               |              |              |               |
| W                               | 9.0 ± 1.5  |             | 13.2 ± 1.5   | 13.4 ± 1.0    | 17 ± 0.2      |             | 17.4 ± 1.0                     |              |               |              |              |               |
| C                               | Ø178 ± 1.0   |             | Ø178 ± 1.0   | Ø330 ± 1.0    | Ø180 ± 3.0    |             | Ø330 ± 1.0                     |              |               |              |              |               |
| D                               | Ø60.2 ± 0.5  |             | Ø60.2 ± 0.5  | Ø99 ± 0.5     | Ø60 ± 0.5     |             | Ø99 ± 0.5                      |              |               |              |              |               |

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