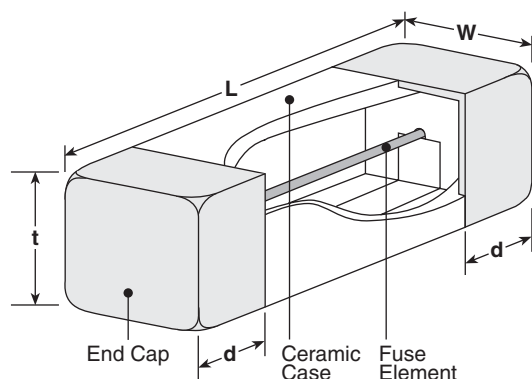




## features

- Surface mount fuse suitable for primary and secondary circuits
- Ceramic case provides excellent mechanical strength
- Suitable for flow and reflow soldering
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

## dimensions and construction



| Type | Dimensions inches (mm) |                        |                        |                        |
|------|------------------------|------------------------|------------------------|------------------------|
|      | L                      | W                      | t                      | d                      |
| CCF  | .236±.008<br>(6.0±0.2) | .098±.008<br>(2.5±0.2) | .098±.008<br>(2.5±0.2) | .055±.008<br>(1.4±0.2) |

## ordering information

| CCF  | 1     | N              | 1                      |                                                                     | T                    | TE                                                 |
|------|-------|----------------|------------------------|---------------------------------------------------------------------|----------------------|----------------------------------------------------|
| Type | Style | Characteristic | Rated Current          | Rated Voltage (UL)                                                  | Termination Material | Packaging                                          |
|      |       | N: Normal blow | Reference rating chart | Nil: 125Va.c./60Vd.c.<br>or 65Va.c./65Vd.c.<br>D: 125Va.c./160Vd.c. | T: Sn                | TE: 4mm pitch embossed plastic (1,000 pieces/reel) |

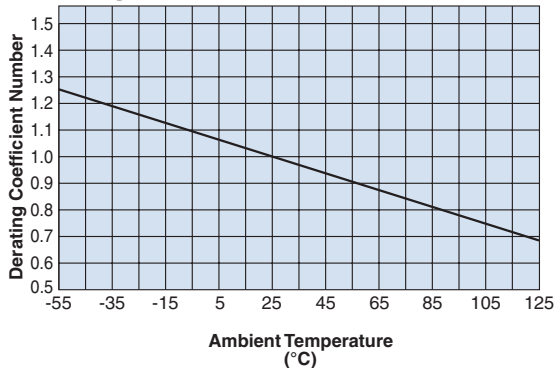
For further information on packaging, please refer to Appendix A.

## applications and ratings

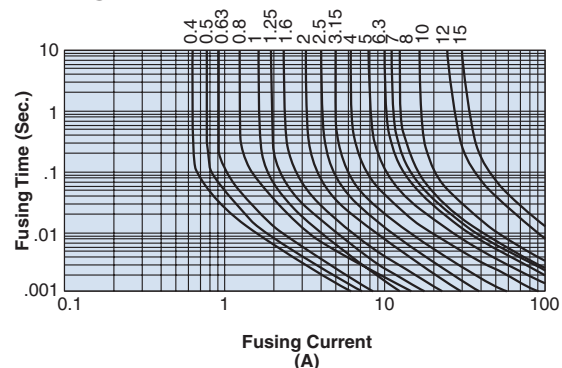
| Part Designation | Current Rating | Voltage Rating                              | Operating Temperature Range | Interrupting Capacity                               | Fusing Characteristics      |                                             | Internal R. (mΩ) Max. | Normal Melting It (A², seconds) |
|------------------|----------------|---------------------------------------------|-----------------------------|-----------------------------------------------------|-----------------------------|---------------------------------------------|-----------------------|---------------------------------|
|                  |                |                                             |                             |                                                     | Rated Current               | Fusing Time                                 |                       |                                 |
| CCF1N0.4         | 400mA          | UL (c-UL)<br>AC 125V<br>DC 60V<br>(DC 160V) | -55°C<br>to<br>+125°C       | UL (c-UL)<br>AC 125V 50A<br>DC 60V 50A<br>(DC 160V) | UL (c-UL)<br>100%<br>200%   | 4 hour min.<br>1 second max.                | 650                   | 0.024                           |
| CCF1N0.5         | 500mA          |                                             |                             |                                                     |                             |                                             | 510                   | 0.030                           |
| CCF1N0.63        | 630mA          |                                             |                             |                                                     |                             |                                             | 390                   | 0.052                           |
| CCF1N0.8         | 800mA          |                                             |                             |                                                     |                             |                                             | 250                   | 0.125                           |
| CCF1N1           | 1A             | PSE<br>AC 100V                              |                             | PSE<br>AC 100V 100A                                 | PSE<br>130%<br>160%<br>200% | 4 hour min.<br>1 hour max.<br>1 second max. | 90.4                  | 0.156                           |
| CCF1N1.25        | 1.25A          |                                             |                             |                                                     |                             |                                             | 75.9                  | 0.220                           |
| CCF1N1.6         | 1.6A           |                                             |                             |                                                     |                             |                                             | 59.3                  | 0.513                           |
| CCF1N2           | 2A             |                                             |                             |                                                     |                             |                                             | 42.9                  | 0.814                           |
| CCF1N2.5         | 2.5A           | UL (c-UL)<br>AC 125V<br>DC 60V              |                             | UL (c-UL)<br>AC 125V 50A<br>DC 60V 50A              | UL (c-UL)<br>100%<br>200%   | 4 hour min.<br>1 second max.                | 36.6                  | 1.31                            |
| CCF1N3.15        | 3.15A          |                                             |                             |                                                     |                             |                                             | 26                    | 2.37                            |
| CCF1N4           | 4A             |                                             |                             |                                                     |                             |                                             | 20.1                  | 3.85                            |
| CCF1N5           | 5A             |                                             |                             |                                                     |                             |                                             | 15.3                  | 6.5                             |
| CCF1N6.3         | 6.3A           | (DC 160V)                                   |                             | (DC 160V)                                           |                             |                                             | 11.4                  | 10.6                            |
| CCF1N7           | 7A             |                                             |                             |                                                     |                             |                                             | 10.6                  | 12.8                            |
| CCF1N8           | 8A             |                                             |                             |                                                     |                             |                                             | 9.5                   | 17.0                            |
| CCF1N10          | 10A            |                                             |                             |                                                     |                             |                                             | 7.5                   | 27.7                            |
| CCF1N12          | 12A            | UL (c-UL)<br>AC 65V<br>DC 65V               |                             | UL (c-UL)<br>AC 65V 50A<br>DC 65V 50A               | UL (c-UL)<br>100%<br>200%   | 4 hour min.<br>60 seconds max.              | 4.5                   | 73.5                            |
| CCF1N15          | 15A            |                                             |                             |                                                     |                             |                                             | 3.5                   | 125.5                           |

## environmental applications

### Derating Curve



### Fusing Characteristics



## Performance Characteristics

| Parameter                    | Requirement $\Delta R \pm \%$         |           | Test Method                                                                                            |
|------------------------------|---------------------------------------|-----------|--------------------------------------------------------------------------------------------------------|
|                              | Limit                                 | Typical   |                                                                                                        |
| Fusing Characteristics       | Within specified time.<br>No restrike | —         | Fusing time measured under rated current x 160% and 200%                                               |
| Surface Temperature Rise     | Max. Temp. Rise 140°C                 | —         | Surface temperature should be measured by rated current x 115%                                         |
|                              | Max. Temp. Rise 75°C                  | —         | Surface temperature should be measured by rated current x 100%                                         |
| Bending Test                 | No mechanical damages                 | —         | Distance between holding points 90mm, bent by 3mm at rate of 1mm/s                                     |
| Resistance to Soldering Heat | $\pm 10\%$                            | $\pm 3\%$ | 260°C $\pm 5^\circ\text{C}$ , 10 seconds $\pm 0.5$ seconds                                             |
| Solderability                | $\pm 95\%$ coverage min.              | —         | 235°C $\pm 5^\circ\text{C}$ , 3 seconds $\pm 0.5$ seconds                                              |
| Load Life                    | $\pm 10\%$                            | $\pm 5\%$ | 70°C $\pm 2^\circ\text{C}$ , 1000 hours, rated current x 70%, 1.5 hr ON, 0.5 hr OFF cycle              |
| Load Life Moisture           | $\pm 10\%$                            | $\pm 5\%$ | 40°C $\pm 2^\circ\text{C}$ , 90 - 95% RH, 1000 hours, rated current x 70%, 1.5 hr ON, 0.5 hr OFF cycle |
| Rapid Change of Temperature  | $\pm 10\%$                            | $\pm 5\%$ | -55°C (30 minutes), +125°C (30 minutes), 100 cycles                                                    |

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