




Features

- Radial leaded devices
- Aids compliance with:
 - ITU-T K.20/21/45
 - Telcordia GR-1089-CORE
 - UL 60950, 3rd Ed.
- Narrow resistance tolerance
- Agency recognition: 
- RoHS compliant*

Applications

Used as a secondary overcurrent protection device in:

- Customer Premise Equipment (CPE)
- Central Office (CO)
- Access equipment

CMF-RL Series - Telecom CPTC Resettable Fuses

Electrical Characteristics

| Model | Induction Voltage Withstand | Rated Voltage (Vr) | Rated Resistance (Rn) | | Packaging Resistance Matching | Hold Current | Trip Current | I _{max} @ 230 Vac | Time to Trip @ I _{max} / Vr |
|----------------|-----------------------------|--------------------|-----------------------|-----------|-------------------------------|--------------|--------------|----------------------------|--------------------------------------|
| | VAC | Volts | Ohms | Tolerance | Ohms @ 25 °C | Amps @ 25 °C | Amps @ 25 °C | Amps @ 25 °C | Seconds @ 25 °C |
| CMF-RL10 | 600 | 60 Vdc | 10 | ±20 % | ± 0.5 | 0.15 | 0.30 | 3 | ≤ 0.45 |
| CMF-RL10-10 | 600 | 60 Vdc | 10 | ±10 % | ± 0.5 | 0.15 | 0.30 | 3 | ≤ 0.45 |
| CMF-RL25** | 600 | 230 Vac | 25 | ±20 % | ± 0.5 | 0.100 | 0.200 | 3 | ≤ 0.3 |
| CMF-RL25U** | 600 | 230 Vac | 25 | ±20 % | ± 0.5 | 0.060 | 0.150 | 0.9 | ≤ 0.5 |
| CMF-RL35 | 600 | 230 Vac | 35 | ±20 % | ± 0.5 | 0.080 | 0.220 | 3 | ≤ 0.15 |
| CMF-RL35-10 | 600 | 230 Vac | 35 | ±10 % | ± 0.5 | 0.080 | 0.220 | 3 | ≤ 0.15 |
| CMF-RL35A** | 600 | 230 Vac | 35 | ±20 % | ± 0.5 | 0.080 | 0.220 | 3 | ≤ 0.15 |
| CMF-RL35A-10** | 600 | 230 Vac | 35 | ±10 % | ± 0.5 | 0.080 | 0.220 | 3 | ≤ 0.15 |
| CMF-RL50 | 600 | 230 Vac | 50 | ±20 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL50-10 | 600 | 230 Vac | 50 | ±10 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL50A** | 600 | 230 Vac | 50 | ±20 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL50A-10** | 600 | 230 Vac | 50 | ±10 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL55 | 600 | 230 Vac | 55 | ±20 % | ± 0.5 | 0.060 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL55-10 | 600 | 230 Vac | 55 | ±10 % | ± 0.5 | 0.060 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL55A** | 600 | 230 Vac | 55 | ±20 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL55A-10** | 600 | 230 Vac | 55 | ±10 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |

Operating Temperature Range: -40°C to +125 °C

** UL recognition pending

Test Procedures And Requirements For Model CMF-RL Series

| Test | Primary Protection | Test Condition | Requirements |
|--|--------------------|--|----------------------|
| Mains Power Contact - ITU-T K.20, K.21 | None | 230 V rms, 10 ohms, 15 Min. | (Ri-Rf) / Ri < ±10 % |
| Power Induction - ITU-T K.20, K.21 | None | 600V rms, 600 ohms, 0.2 seconds, 10 cycles, every 1 Min. | (Ri-Rf) / Ri < ±10 % |
| Power Induction - ITU-T K.20, K.21 | GDT | 600 V rms, 600 ohms, 1 second, 10 cycles, every 1 Min. | (Ri-Rf) / Ri < ±10 % |
| Power Induction - ITU-T K.20, K.21 | GDT | 600 V rms, 200 ohms, 1 second, 10 cycles, every 1 Min. | (Ri-Rf) / Ri < ±10 % |
| Lightning Surge - ITU-T K.20, K.21 | | 10/700 µs, 25 ohms, 1.0 kV, 10 Tests, every 1 Min. | (Ri-Rf) / Ri < ±10 % |
| Lightning Surge | | 10/1000 µs, 40 ohms, 1.0 kV, 30 Tests, every 3 Min. | (Ri-Rf) / Ri < ±10 % |

Ri = R initial Rf = R final

| Test | Model | Test Condition | Passing Criteria |
|---------|-------------|---|-----------------------------------|
| UL 1950 | CMF-RL50*** | 600 V / 2.2 A for 30 minutes 600 V / 7 A for 5 seconds 600 V / 40 A for 1.5 seconds | No charring cheesecloth indicator |

***For other models, please contact Bourns.

UL File Number E307915 <http://www.ul.com/> Follow link to Online Certificates Directory, then enter UL File No. E307915 or [click here](#)

Environmental Characteristics

Moisture Sensitivity Level 1
ESD Classification (HBM) Class 6



WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

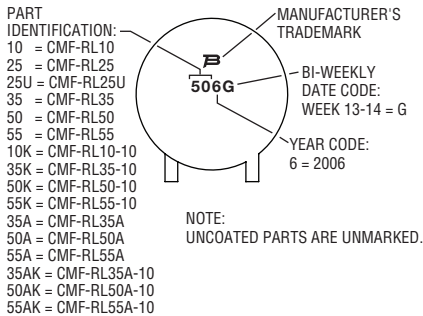
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CMF-RL Series - Telecom CPTC Resettable Fuses

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Typical Part Marking

Represents total content. Layout may vary.



How to Order

Product Designator **CMF - RL 50** **A - 10 - 0**

Style **RL = Telecom Radial Leaded CPTC**

Rated Resistance (RN) **10-55 (10 Ohms - 55 Ohms)**

Uncoated Option **U = Uncoated Part Blank = Standard Part**

Size Option **A = Reduced Size Blank = Standard Size**

Rated Resistance Tolerance **-10 = ±10 % Blank = ±20 % (Standard)**

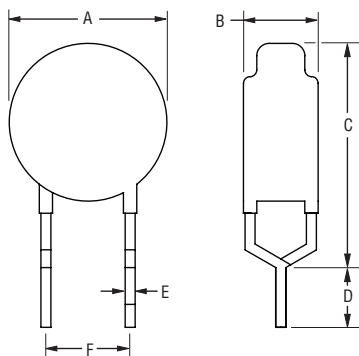
Packaging Options **- 0 = Bulk Packaging - Tray or Bag**

Alternative tolerances, resistances and lead lengths available on request.

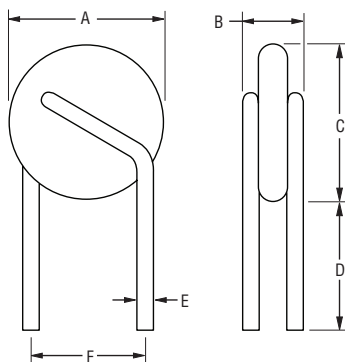
Product Dimensions

| Model | A | B | C | D | E | F | Characteristics | |
|---------------------------|----------------|----------------|-----------------|--------------------------------|-------------------------------|------------------------------|-----------------|-------|
| | Max. | Max. | Max. | Nom. | Nom. | Nom. | Material | Style |
| CMF-RL10 CMF-RL10-10 | 9.8 (0.366) | 5.0 (0.197) | 14.0 (0.551) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL25 | 9.8 (0.386) | 5.0 (0.197) | 14.0 (0.551) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL25U | 5.2 (0.205) | 3.5 (0.138) | 5.2 (0.205) | 25 (0.984) MIN. | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 2 |
| CMF-RL35 CMF-RL35-10 | 9.8 (0.386) | 5.0 (0.197) | 14.0 (0.551) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL35A CMF-RL35A-10 | 8.5 (0.335) | 4.5 (0.177) | 13.0 (0.512) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL50 CMF-RL50-10 | 9.8 (0.386) | 5.0 (0.197) | 14.0 (0.551) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL50A CMF-RL50A-10 | 7.5 (0.295) | 4.5 (0.177) | 13.0 (0.512) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL55 CMF-RL55-10 | 9.8 (0.386) | 5.0 (0.197) | 14.0 (0.551) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |
| CMF-RL55A CMF-RL55A-10 | 7.5 (0.295) | 4.5 (0.177) | 13.0 (0.512) | 2.84 ~ 3.84 (0.112 ~ 0.151) | 0.6 ± 0.05 (0.024 ± 0.002) | 5.0 ± 1.5 (0.197 ± 0.059) | Sn/Cu | 1 |

Style 1



Style 2



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Bulk Packaging Specifications

CMF-RL25U &
 CMF-RL50A-10 700 pcs. per bag
 All other models..... 300 pcs. per tray

CMF-RL SERIES, REV. V, 12/18

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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