



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 VAC | Rated Voltage Volts | Rated Resistance (RN) | | Packaging Resistance Matching Ohms @ 25 °C | Hold Current Amps @ 25 °C | Trip Current Amps @ 25 °C | Imax @ 220 VAC Amps @ 25 °C | Time to Trip @ Imax / 220 VAC Seconds @ 25 °C |
|--------------|------------------------------------|------------------------|-----------------------|-----------|---|------------------------------|------------------------------|--------------------------------|--|
| | | | Ohms | Tolerance | | | | | |
| CMF-RL10 | 600 | 220 | 10 | ±20 % | ± 0.5 | 0.15 | 0.30 | 3 | ≤ 0.45 |
| CMF-RL10-10 | 600 | 220 | 10 | ±10 % | ± 0.5 | 0.15 | 0.30 | 3 | ≤ 0.45 |
| CMF-RL25 | 600 | 220 | 25 | ±20 % | ± 0.5 | 0.100 | 0.200 | 3 | ≤ 0.3 |
| CMF-RL25U | 600 | 220 | 25 | ±20 % | ± 0.5 | 0.060 | 0.150 | 0.9 | ≤ 0.25 |
| CMF-RL35 | 600 | 220 | 35 | ±20 % | ± 0.5 | 0.075 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL35-10 | 600 | 220 | 35 | ±10 % | ± 0.5 | 0.075 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL35A | 600 | 220 | 35 | ±10 % | ± 0.5 | 0.075 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL35A-10 | 600 | 220 | 35 | ±10 % | ± 0.5 | 0.075 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL50 | 600 | 220 | 50 | ±20 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL50-10 | 600 | 220 | 50 | ±10 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL50A | 600 | 220 | 50 | ±20 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL50A-10 | 600 | 220 | 50 | ±10 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL55 | 600 | 220 | 55 | ±20 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL55-10 | 600 | 220 | 55 | ±10 % | ± 0.5 | 0.065 | 0.150 | 3 | ≤ 0.15 |
| CMF-RL55A | 600 | 220 | 55 | ±20 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |
| CMF-RL55A-10 | 600 | 220 | 55 | ±10 % | ± 0.5 | 0.050 | 0.100 | 3 | ≤ 0.1 |

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

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 Certifications, then UL File No., enter E307915

Typical Part Marking

Represents total content. Layout may vary.

PART IDENTIFICATION:
 10 = CMF-RL10
 25 = CMF-RL25
 25U = CMF-RL25U
 35 = CMF-RL35
 50 = CMF-RL50
 55 = CMF-RL55
 10K = CMF-RL10-10
 35K = CMF-RL35-10
 50K = CMF-RL50-10
 55K = CMF-RL55-10
 35A = CMF-RL35A
 50A = CMF-RL50A
 55A = CMF-RL55A
 35AK = CMF-RL35A-10
 50AK = CMF-RL50A-10
 55AK = CMF-RL55A-10

NOTE:
UNCOATED PARTS ARE UNMARKED.

How to Order

CMF - RL 50 A - 10 - 0

Product Designator _____

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 - Plastic Tray

Alternative tolerances, resistances and lead lengths available on request.

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

CMF-RL Series - Telecom CPTC Resettable Fuses

BOURNS®

Product Dimensions

| Model | A | B | C | D | E | F | Characteristics | |
|-----------|-----------------------|-----------------------|------------------------|-------------------------------------|--|--|-----------------|-------|
| | Max. | Max. | Max. | Nom. | Nom. | Nom. | Material | Style |
| CMF-RL10 | $\frac{9.5}{(0.374)}$ | $\frac{4.5}{(0.177)}$ | $\frac{13.5}{(0.531)}$ | $\frac{3.5}{(0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.2}{(0.197 \pm 0.008)}$ | Sn/Cu | 1 |
| CMF-RL25 | $\frac{9.8}{(0.386)}$ | $\frac{5.0}{(0.197)}$ | $\frac{13.5}{(0.531)}$ | $\frac{3.0 - 3.5}{(0.118 - 0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.3}{(0.197 \pm 0.012)}$ | Sn/Cu | 1 |
| CMF-RL25U | $\frac{5.2}{(0.205)}$ | $\frac{3.5}{(0.138)}$ | $\frac{5.2}{(0.205)}$ | $\frac{3.8}{(0.150)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.2}{(0.197 \pm 0.008)}$ | Sn/Cu | 2 |
| CMF-RL35 | $\frac{9.8}{(0.386)}$ | $\frac{5.0}{(0.197)}$ | $\frac{13.5}{(0.531)}$ | $\frac{3.0 - 3.5}{(0.118 - 0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.08 \pm 0.3}{(0.200 \pm 0.012)}$ | Sn/Cu | 1 |
| CMF-RL35A | $\frac{7.5}{(0.295)}$ | $\frac{5.6}{(0.220)}$ | $\frac{13.0}{(0.512)}$ | $\frac{3.5}{(0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.2}{(0.197 \pm 0.008)}$ | Sn/Cu | 1 |
| CMF-RL50 | $\frac{9.8}{(0.386)}$ | $\frac{5.0}{(0.197)}$ | $\frac{13.5}{(0.531)}$ | $\frac{3.0 - 3.5}{(0.118 - 0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.08 \pm 0.3}{(0.200 \pm 0.012)}$ | Sn/Cu | 1 |
| CMF-RL50A | $\frac{7.5}{(0.295)}$ | $\frac{5.6}{(0.220)}$ | $\frac{13.0}{(0.512)}$ | $\frac{3.5}{(0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.2}{(0.197 \pm 0.008)}$ | Sn/Cu | 1 |
| CMF-RL55 | $\frac{9.8}{(0.386)}$ | $\frac{5.0}{(0.197)}$ | $\frac{13.5}{(0.531)}$ | $\frac{3.0 - 3.5}{(0.118 - 0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.08 \pm 0.3}{(0.200 \pm 0.012)}$ | Sn/Cu | 1 |
| CMF-RL55A | $\frac{7.5}{(0.295)}$ | $\frac{5.6}{(0.220)}$ | $\frac{13.0}{(0.512)}$ | $\frac{3.5}{(0.138)}$ | $\frac{0.6 \pm 0.05}{(0.024 \pm 0.019)}$ | $\frac{5.0 \pm 0.2}{(0.197 \pm 0.008)}$ | Sn/Cu | 1 |

Packaging:

BULK: CMF-RL25U & CMF-RL50A = 700 pcs. per bag; all other models = 600 pcs. per tray.

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

Style 1



Style 2



Style 3



CMF-RL SERIES, REV. S, 03/13

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