

Power Wirewound Resistors  
flame retardant, safety version



### Specifications

| Type                                                        |                                | CRF251-4                                         | CRF252-4   | CRF253-4   | CRF254-4   | CRF256-4   | CRF257-4   |
|-------------------------------------------------------------|--------------------------------|--------------------------------------------------|------------|------------|------------|------------|------------|
| Nominal Power rating $P_{40}$<br>$P_{70}$                   | W                              | 1,1<br>1,0                                       | 2,0<br>1,6 | 2,5<br>2,0 | 3,0<br>2,5 | 4,0<br>3,5 | 5,0<br>4,3 |
| Resistance range                                            | $\Omega$                       | see next page<br>( higher values upon request )  |            |            |            |            |            |
| E-Series                                                    |                                | E 24                                             |            |            |            |            |            |
| Tolerances                                                  | %                              | $\pm 5$                                          |            |            |            |            |            |
| Temperature coefficient                                     | $10^{-6} \cdot K^{-1}$         | $120 \pm 50$                                     |            |            |            |            |            |
| max. cont. work. voltage                                    | $V_{RMS}$                      | $\sqrt{P_{70} \cdot R}$                          |            |            |            |            |            |
| Insulation voltage (1min.)                                  | $V_{RMS}$                      | max 75V                                          |            |            |            |            |            |
| Insulation resistance                                       |                                | not insulated                                    |            |            |            |            |            |
| Derating linear                                             | $^{\circ}C$                    | 70 ... 350 (0W)                                  |            |            |            |            |            |
| Climatic category                                           | $\Omega$                       | 55/350/56                                        |            |            |            |            |            |
| Temperature range                                           | $^{\circ}C$                    | - 55 ... 350                                     |            |            |            |            |            |
| Thermal resistance                                          | $KW^{-1}$                      | 125                                              | 100        | 85         | 65         | 65         | 48         |
| Failure rate<br>(Total, $J_o$ , max., 60% conf. lev.)       | $10^{-9} \cdot h^{-1}$         | appr. 10, depends on value                       |            |            |            |            |            |
| Endurance<br>( $P_{70}$ , $70^{\circ}C$ , 1000)             | $\left[\frac{DR}{R}\right] \%$ | $\pm 5,0$ average                                |            |            |            |            |            |
| Damp heat, steady state<br>( $40^{\circ}C$ , 93% r.h., 56d) | $\left[\frac{DR}{R}\right] \%$ | $\pm 5,0$                                        |            |            |            |            |            |
| Climatic sequence                                           | $\left[\frac{DR}{R}\right] \%$ | $\pm 2,0$                                        |            |            |            |            |            |
| Terminal strength                                           | $\left[\frac{DR}{R}\right] \%$ | $\pm 0,2$                                        |            |            |            |            |            |
| Terminal tensile strength                                   | N                              | 40                                               |            | 50         |            |            |            |
| Resistance to soldering heat<br>( $260^{\circ}C$ , 10s)     | $\left[\frac{DR}{R}\right] \%$ | $\pm 0,5$                                        |            |            |            |            |            |
| Solderability                                               | s                              | 2,5 Flowtime, solderglobule test, IEC 60068-2-20 |            |            |            |            |            |
| Marking                                                     |                                | printed in clear                                 |            |            |            |            |            |

| Type     | Resistance range |      |
|----------|------------------|------|
|          | min.             | max. |
| CRF251-4 | *1R0             | 100R |
| CRF252-4 | *1R0             | 240R |
| CRF253-4 | *1R0             | 330R |
| CRF254-4 | *1R0             | 330R |
| CRF256-4 | *1R0             | 330R |
| CRF257-4 | *1R0             | 330R |

Note: The special construction of resistance values >10R results in an immediate interruption (<1s, 200ms typical ) when mains voltage (220V/240V<sub>RMS</sub>) is applied. No flames, no explosion. After fusing, the resistance value is >100KOhm.

For other voltages test suitability in the application!

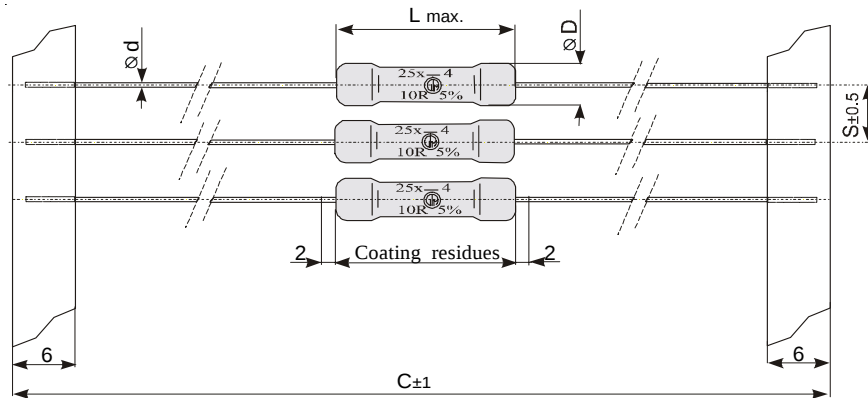
\* Resistance values < 10R are flame retardant.

The interruption mechanism is not clearly defined and has to be tested in the final application!

| Type     | L<br>max. | ØD<br>max. | Ød   |
|----------|-----------|------------|------|
| CRF251-4 | 9,0       | 3,0        | 0,65 |
| CRF252-4 | 9,7       | 4,0        | 0,80 |
| CRF253-4 | 14,5      | 4,5        | 0,65 |
| CRF254-4 | 12,6      | 6,0        | 0,80 |
| CRF256-4 | 17,0      | 6,0        | 0,80 |
| CRF257-4 | 18,0      | 8,5        | 0,80 |

\*R <10R Dmax. +1

Dimensions in mm:



Packaging:

| Type     | Packaging      | Pieces | Code | C  | S  |
|----------|----------------|--------|------|----|----|
| CRF251-4 | taped/Ammopack | 1000   | T    | 65 | 5  |
| CRF252-4 | taped/Ammopack | 1000   | T    | 65 | 5  |
| CRF253-4 | taped/Ammopack | 1000   | T    | 85 | 10 |
| CRF254-4 | taped/Ammopack | 1000   | T    | 85 | 10 |
| CRF256-4 | taped/Ammopack | 1000   | T    | 85 | 10 |
| CRF257-4 | taped/Ammopack | 500    | T    | 85 | 10 |

Ordering example:

CRF254-4  
Type

5  
Tolerance

T  
Pack.-Code

15R  
R-Value

Revision 200907