

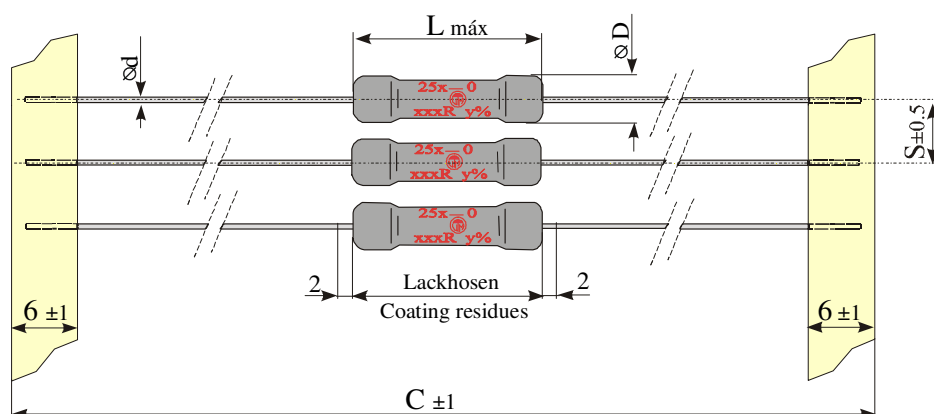


## Precision Power Wirewound Resistors, ceramic carrier, coated, axial

### Specifications

| Type                                                         |                        | CR<br>251-0                                                           | CR<br>252-0 | CR<br>253-0 | CR<br>254-0 | CR<br>255-0 | CR<br>256-0 | CR<br>257-0 | CR<br>258-0 | CR<br>259-0 |
|--------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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  | 3,3<br>3,0  | 4,0<br>3,5  | 5,0<br>4,3  | 5,5<br>5,0  | 7,2<br>6,5  |
| Resistance range                                             | $\Omega$               | See Page 2                                                            |             |             |             |             |             |             |             |             |
| Tolerances                                                   | %                      | Rmin. ...Rmax.: $\pm 5$ , $\pm 2$ , $\pm 1$ ; $R \geq 1R$ : $\pm 0,5$ |             |             |             |             |             |             |             |             |
| Temperature coefficient                                      | $10^{-6} \cdot K^{-1}$ | See Page 2                                                            |             |             |             |             |             |             |             |             |
| Max. working voltage                                         | $V_{RMS}$              | $\sqrt{P_{70} \cdot R}$                                               |             |             |             |             |             |             |             |             |
| Insulation voltage (1min.)                                   | $V_{RMS}$              | max 75 V                                                              |             |             |             |             |             |             |             |             |
| Insulation resistance                                        | $\Omega$               | not insulated                                                         |             |             |             |             |             |             |             |             |
| Derating linear                                              | $^{\circ}C$            | 70...350 (0W)                                                         |             |             |             |             |             |             |             |             |
| Climatic category                                            |                        | 55/200/56                                                             |             |             |             |             |             |             |             |             |
| Temperature range                                            | $^{\circ}C$            | -55 ~ 350                                                             |             |             |             |             |             |             |             |             |
| Thermal resistance                                           | $KW^{-1}$              | 125                                                                   | 100         | 85          | 65          | 55          | 65          | 48          | 45          | 35          |
| Failure Rate<br>(Total, $\vartheta_0$ , max, 60% cont. lev.) | $10^{-9} h^{-1}$       | appr. 100 depends on value                                            |             |             |             |             |             |             |             |             |
| Endurance ( $P_{70}$ , 70 $^{\circ}C$ , 1000h)               | $[\Delta R/R] \%$      | $\pm 3,0$ average                                                     |             |             |             |             |             |             |             |             |
| Damp heat, steady state<br>(40 $^{\circ}C$ , 93% r.h., 56d)  | $[\Delta R/R] \%$      | $\pm 1,0$                                                             |             |             |             |             |             |             |             |             |
| Climatic sequence<br>(IEX 115-1/23)                          | $[\Delta R/R] \%$      | $\pm 1,0$                                                             |             |             |             |             |             |             |             |             |
| Terminal strength                                            | $[\Delta R/R] \%$      | $\pm 0,2$                                                             |             |             |             |             |             |             |             |             |
| Terminal Tensile Strength                                    | N                      | 40                                                                    |             |             |             | 50          |             |             |             |             |
| Resistance to soldering heat<br>(260 $^{\circ}C$ , 3,5s)     | $[\Delta R/R] \%$      | $\pm 0,2$ typ.                                                        |             |             |             |             |             |             |             |             |
| Solderability                                                | s                      | 2,5 Flowtime; solderglobule test, IEC 60068-2-20-T                    |             |             |             |             |             |             |             |             |
| Marking                                                      |                        | Printed in clear                                                      |             |             |             |             |             |             |             |             |

Dimensions in mm:



| Type  | Temperature Coefficient ( -20°C to 120°C ) |         |                |         |                  |         |              |        |              |        |
|-------|--------------------------------------------|---------|----------------|---------|------------------|---------|--------------|--------|--------------|--------|
|       | 500 +400 ppm/K                             |         | 400 ± 50 ppm/K |         | appr. +180 ppm/K |         | 0 ± 20 ppm/K |        | 0 ± 10 ppm/K |        |
| 251-0 | -----                                      | -----   | ≥ 0R01         | ≤ 0R024 | ≥ 0R027          | ≤ 0R091 | ≥ 0R1        | ≤ 15R  | ≥ 16R        | ≤ 220R |
| 252-0 | ≥ 0R022                                    | ≤ 0R033 | ≥ 0R036        | ≤ 0R062 | ≥ 0R068          | ≤ 0R091 | ≥ 0R1        | ≥ 160R | ≥ 180R       | ≤ 470R |
| 253-0 | ≥ 0R01                                     | ≤ 0R02  | ≥ 0R022        | ≤ 0R047 | ≥ 0R051          | ≤ 0R091 | ≥ 0R1        | ≤ 47R  | ≥ 51R        | ≤ 750R |
| 254-0 | ≥ 0R01                                     | ≤ 0R027 | ≥ 0R03         | ≤ 0R075 | ≥ 0R082          | ≤ 0R091 | ≥ 0R1        | ≤ 47R  | ≥ 51R        | ≤ 750R |
| 255-0 | ≥ 0R015                                    | ≤ 0R024 | ≥ 0R027        | ≤ 0R062 | ≥ 0R068          | ≤ 0R091 | ≥ 0R1        | ≤ 68R  | ≥ 75R        | ≤ 1K0  |
| 256-0 | ≥ 0R02                                     | ≤ 0R03  | ≥ 0R033        | ≤ 0R062 | ≥ 0R068          | ≤ 0R091 | ≥ 0R1        | ≤ 130R | ≥ 150R       | ≤ 1K5  |
| 257-0 | ≥ 0R027                                    | ≤ 0R047 | ≥ 0R051        | ≤ 0R082 | ≥ 0R091          | ≤ 0R13  | ≥ 0R15       | ≤ 150R | ≥ 160R       | ≤ 2K2  |
| 258-0 | ≥ 0R033                                    | ≤ 0R062 | ≥ 0R068        | ≤ 0R13  | ≥ 0R15           | ≤ 0R16  | ≥ 0R18       | ≤ 160R | ≥ 180R       | ≤ 2K7  |
| 259-0 | > 0R047                                    | < 0R075 | > 0R082        | < 0R15  | > 0R16           | < 0R24  | > 0R27       | < 180R | > 200R       | < 3K9  |

| Type    | L max | ØD * max | Ød   |
|---------|-------|----------|------|
| CR251-0 | 9,0   | 3,0      | 0,65 |
| CR252-0 | 9,7   | 4,0      | 0,80 |
| CR253-0 | 14,5  | 4,5      | 0,65 |
| CR254-0 | 12,6  | 5,5      | 0,80 |
| CR255-0 | 15,0  | 8,5      | 0,80 |
| CR256-0 | 17,0  | 5,5      | 0,80 |
| CR257-0 | 18,0  | 8,5      | 0,80 |
| CR258-0 | 22,0  | 8,5      | 0,80 |
| CR259-0 | 27,0  | 8,5      | 0,80 |

$$*R \leq 1R0 \quad D_{\max.} + 1$$

Packaging:

| Type    | Packaging | Pieces | Pack.-code | C  | s  |
|---------|-----------|--------|------------|----|----|
| CR251-0 | taped     | 1000   | T          | 65 | 5  |
| CR252-0 | taped     | 1000   | T          | 65 | 5  |
| CR253-0 | taped     | 1000   | T          | 85 | 10 |
| CR254-0 | taped     | 1000   | T          | 85 | 10 |
| CR255-0 | taped     | 500    | T          | 85 | 10 |
| CR256-0 | taped     | 1000   | T          | 85 | 10 |
| CR257-0 | taped     | 500    | T          | 85 | 10 |
| CR258-0 | taped     | 500    | T          | 85 | 10 |
| CR259-0 | taped     | 500    | T          | 85 | 10 |

|                   |         |           |           |          |
|-------------------|---------|-----------|-----------|----------|
| Ordering example: | CR259-0 | 1         | T         | 10R      |
|                   | Type    | Tolerance | Pack-Code | R- value |

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