

## Lead (Pb)-Bearing Thick Film, Rectangular Chip Resistors



### FEATURES

- Stability  $\Delta R/R = 1\%$  for 1000 h at 70 °C
- Lead (Pb)-bearing termination plating on Ni barrier layer
- Metal glaze on high quality ceramic
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q200 qualified, rev. C compliant

**HALOGEN  
FREE**

### STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | SIZE |  | RATED DI |
|-------|------|--|----------|
|-------|------|--|----------|

**TECHNICAL SPECIFICATIONS**

| PARAMETER                                     | UNIT | D10/<br>CRCW0402 | D11/<br>CRCW0603 | D12/<br>CRCW0805 | D25/<br>CRCW1206 | CRCW1210 | CRCW1218 | CRCW2010 | CRCW2512 |
|-----------------------------------------------|------|------------------|------------------|------------------|------------------|----------|----------|----------|----------|
| Rated dissipation at 70 °C <sup>(1)</sup>     | W    | 0.063            | 0.1              | 0.125            | 0.25             | 0.5      | 1.0      | 0.75     | 1.0      |
| Limiting element voltage<br>$U_{MAX}$ , AC/DC | V    | 50               | 75               | 150              | 200              | 200      | 200      | 400      | 500      |
| Insulation voltage $U_{INS}$ ,<br>(1 min)     | V    | > 75             | > 100            | > 200            | > 300            | > 300    | > 300    | > 300    | >        |

**PACKAGING**

| MODEL        | UNIT          | PAPER TAPE<br>ACC. IEC 60286-3, TYPE I |             |               | BLISTER TAPE<br>ACC. IEC 60286-3, TYPE II |             |               |
|--------------|---------------|----------------------------------------|-------------|---------------|-------------------------------------------|-------------|---------------|
|              |               | QUANTITY                               | PART NUMBER | PRODUCT DESC. | QUANTITY                                  | PART NUMBER | PRODUCT DESC. |
| D10/CRCW0402 | 180 mm/7"     | 10 000                                 | TD          | RT7           |                                           |             |               |
|              | 330 mm/13"    | 50 000                                 | TE          | RF4           |                                           |             |               |
| D11/CRCW0603 | 180 mm/7"     | 5000                                   | TA          | RT1           |                                           |             |               |
|              | 285 mm/11.25" |                                        |             |               |                                           |             |               |

**FUNCTIONAL PERFORMANCE**
**Single Pulse**

**Continuous Pulse**


## Derating



**TEST PROCEDURES AND REQUIREMENTS**

| EN<br>60115-1<br>CLAUSE | IEC<br>60082-2<br>TEST<br>METHOD | TEST          | PROCEDURE                                         | REQUIREMENTS PERMISSIBLE<br>CHANGE ( $\Delta R$ ) |                                |
|-------------------------|----------------------------------|---------------|---------------------------------------------------|---------------------------------------------------|--------------------------------|
|                         |                                  |               |                                                   | STABILITY CLASS 1<br>OR BETTER                    | STABILITY CLASS 2<br>OR BETTER |
|                         |                                  |               | Stability for product types:<br><br><b>D/CRCW</b> | 1 $\Omega$ to 10 M $\Omega$                       | 1 $\Omega$ to 10 M $\Omega$    |
| 4.5                     | -                                | Resistance    | -                                                 | $\pm 1 \%$                                        | $\pm 5 \%$                     |
| 4.7                     | -                                | Voltage proof | $U = 1.4 \cdot U_{ins}$ ; 6                       |                                                   |                                |

| TEST PROCEDURES AND REQUIREMENTS |                                  |                                  |                                                                                  |                                                   |                                |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------|
| EN<br>60115-1<br>CLAUSE          | IEC<br>60082-2<br>TEST<br>METHOD | TEST                             | PROCEDURE                                                                        | REQUIREMENTS PERMISSIBLE<br>CHANGE ( $\Delta R$ ) |                                |
|                                  |                                  |                                  |                                                                                  | STABILITY CLASS 1<br>OR BETTER                    | STABILITY CLASS 2<br>OR BETTER |
|                                  |                                  |                                  | Stability for product types:<br><br>D/CRCW                                       | 1 $\Omega$ to 10 M $\Omega$                       | 1 $\Omega$ to 10 M $\Omega$    |
| 4.22                             | 6 (Fc)                           | Vibration, endurance by sweeping | f = 10 Hz to 2000 Hz;<br>x, y, z $\leq$ 1.5 mm;<br>A $\leq$ 200 m/s <sup>2</sup> |                                                   |                                |



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