Vishay Dale



## Metal Film Resistors, Industrial, ± 1%, ± 5% Tolerance



- 0.33 watt power rating
- ± 100ppm/°C standard, ± 50ppm/°C available upon request
- Superior electrical performance
- Flame retardant epoxy conformal coating
- Standard 4 or 5 band color code marking for ease of identification after mounting
- Tape and reel packaging for automatic insertion (52.4mm inside tape spacing per EIA-296-E)
- · Lead (Pb)-Free version is RoHS Compliant





**STANDARD ELECTRICAL SPECIFICATIONS** GLOBAL HISTORICAL **POWER RATING** LIMITING ELEMENT TEMPERATURE TOLERANCE RESISTANCE **E-SERIES** MODEL MODEL VOLTAGE MAX. P<sub>70°C</sub> **COEFFICIENT\*** RANGE w V≌ ppm/°C %  $\Omega$ 96 for 1% CCF50 CCF-50 0.33 200 ± 100 10R - 1M ± 1, ± 5 24 for 5%

\*50ppm/°C on request

| TECHNICAL SPECIFICATIONS    |                  |              |  |  |
|-----------------------------|------------------|--------------|--|--|
| PARAMETER                   | UNIT             | CCF50        |  |  |
| Rated Dissipation at 70°C   | W                | 0.33         |  |  |
| Maximum Working Voltage     | V≌               | ≤ 200        |  |  |
| Insulation Voltage (1min)   | V <sub>eff</sub> | >500         |  |  |
| Dielectric Strength         | VAC              | 450          |  |  |
| Insulation Resistance       | Ω                | ≥10¹¹        |  |  |
| Operating Temperature Range | °C               | - 65 / + 165 |  |  |
| Weight                      | g                | 0.11 max     |  |  |

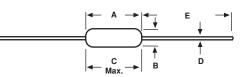
| GLOBAL PART NUMBER INFORMATION  |                     |                 |                   |  |                   |  |
|---|---------------------|-----------------|-------------------|--|-------------------|--|
| New Global Part Numbering: CCF50301RFKR36 (preferred part numbering format) |                     |                 |                   |  |                   |  |
| C C F 5 0 3 0 1 R F K R 3 6   |                     |                 |                   |  |                   |  |
|   |                     |                 |                   |  |                   |  |
| GLOBAL MODEL  | RESISTANCE VALUE    | TOLERANCE       | TEMPERATURE       | PACKAGING                              | SPECIAL           |  |
|   |                     | CODE            | COEFFICIENT       |  |                   |  |
| CCF50   | <b>R</b> = Decimal  | <b>F</b> = ± 1% | <b>H</b> = 50ppm  | <b>E36</b> = Lead Free, T/R (5000 pcs) | Blank=Standard    |  |
|   | K = Thousand        | <b>J</b> = ± 5% | <b>K</b> = 100ppm | <b>R36</b> = Tin/Lead, T/R (5000 pcs)  | (Dash Number)     |  |
|   | M = Million         |                 |                   |  | (up to 3 digits)  |  |
|   | <b>10R0</b> = 10Ω   |                 |                   |  | From <b>1-999</b> |  |
|   | <b>680K</b> = 680KΩ |                 |                   |  | as applicable     |  |
|   | <b>1M00</b> = 1.0MΩ |                 |                   |  |                   |  |
| Historical Part Number example: CCF-503010F (will continue to be accepted)  |                     |                 |                   |  |                   |  |
| CCF-50  |                     | 3010            |                   | F                                      | R36               |  |
|   |                     |                 |                   |  |                   |  |
| HISTORICAL MOD  | EL RESIS            | STANCE VALUE    | TOLERA            | NCE CODE P                             | ACKAGING          |  |
|   |                     |                 |                   |  |                   |  |

\* Pb containing terminations are not RoHS compliant, exemptions may apply

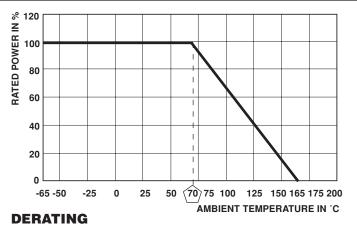




## **DIMENSIONS** in inches [millimeters]



| DIMENSION | INCHES        | MILLIMETERS    |  |
|-----------|---------------|----------------|--|
| Α         | 0.133 ± 0.010 | [3.38 ± 0.025] |  |
| В         | 0.062 ± 0.004 | [1.57 ± 0.10]  |  |
| C(Max)    | 0.143         | [3.63]         |  |
| D         | 0.020 ± 0.002 | [0.51 ± 0.05]  |  |
| E         | 1.125 ± 0.040 | [28.58 ± 1.02] |  |



## MARKING

---- 5 band colorband for  $\pm 1\%$ ---- 4 band colorband for  $\pm 5\%$ 

| PERFORMANCE                     |         |  |  |
|---------------------------------|---------|--|--|
| TEST*                           |         |  |  |
| Thermal Shock                   | ± 0.1%  |  |  |
| Short Time Overload             | ± 0.1%  |  |  |
| Low Temperature Operation       | ± 0.1%  |  |  |
| Moisture Resistance             | ± 0.2%  |  |  |
| Resistance to Soldering Heat    | ± 0.05% |  |  |
| Shock                           | ± 0.1%  |  |  |
| Vibration                       | ± 0.05% |  |  |
| Life                            | ± 0.5%  |  |  |
| Terminal Strength               | ± 0.1%  |  |  |
| Dielectric Withstanding Voltage | ± 0.05% |  |  |

\* Tests per MIL-R-10509.



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