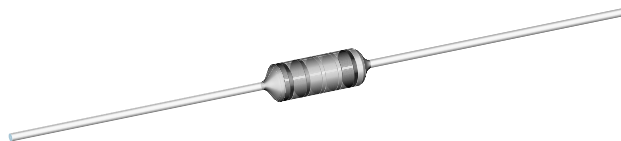


Metal Film Resistors, Industrial Power, Flameproof



FEATURES

- Small size suitable for 1/2 W, 1 W and 2 W applications
- High power rating, small size
- Flameproof, high temperature coating meets EIA RS-325-A
- Excellent high frequency characteristics
- Low noise
- Low voltage coefficient
- Tape and reel packaging for automatic insertion (52.4 mm inside tape spacing per EIA-296-E)
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS*
COMPLIANT
HALOGEN
FREE

Note

* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{70^{\circ}\text{C}}$ W	MAXIMUM WORKING VOLTAGE ⁽¹⁾ V	TEMPERATURE COEFFICIENT \pm ppm/ $^{\circ}\text{C}$	TOLERANCE \pm %	RESISTANCE RANGE Ω	E-SERIES
CCF02	CCF-2	2.0	350	100	1, 5	4.99 to 1M	96 for 1 % tolerance 24 for 5 % tolerance

Note

⁽¹⁾ Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CCF02
Rated Dissipation at 70 $^{\circ}\text{C}$	W	2.0
Maximum Working Voltage	V	≤ 350
Insulation Voltage (1 Min)	V_{eff}	> 500
Dielectric Strength	V_{AC}	900
Insulation Resistance	Ω	$\geq 10^{11}$
Operating Temperature Range	$^{\circ}\text{C}$	- 65/+ 230
Terminal Strength (Pull Test)	lb	2
Failure Rate	$10^{-9}/\text{h}$	< 1
Weight (Max.)	g	0.35

MATERIAL SPECIFICATIONS

Element	Proprietary nickel-chrome film
Solderability	Satisfactory per MIL-STD-202, Method 208.
Core	Fire-cleaned high purity ceramic
Termination	Standard lead material is solder-coated copper. Solderable and weldable per MIL-STD-1276, Type C.

MARKING

Color code marking with 5 color bands for ± 1 % product and 4 color bands for ± 5 % product

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CCF02301RFKR36 (preferred part numbering format)

C	C	F	0	2	3	0	1	R	F	K	R	3	6			
GLOBAL MODEL		RESISTANCE VALUE				TOLERANCE CODE		TEMPERATURE COEFFICIENT		PACKAGING			SPECIAL			
CCF02		R = Ω K = $\text{k}\Omega$ M = $\text{M}\Omega$ 4R99 = 4.99 Ω 680K = 680 $\text{k}\Omega$ 1M00 = 1.0 $\text{M}\Omega$				F = $\pm 1\%$ J = $\pm 5\%$		K = 100 ppm		E36 = Lead (Pb)-free, T/R (2500 pieces) R36 = Tin/Lead, T/R (2500 pieces)			Blank = Standard (Dash Number) (up to 3 digits) From 1 to 999 as applicable			

Historical Part Number example: CCF-23010F (will continue to be accepted)

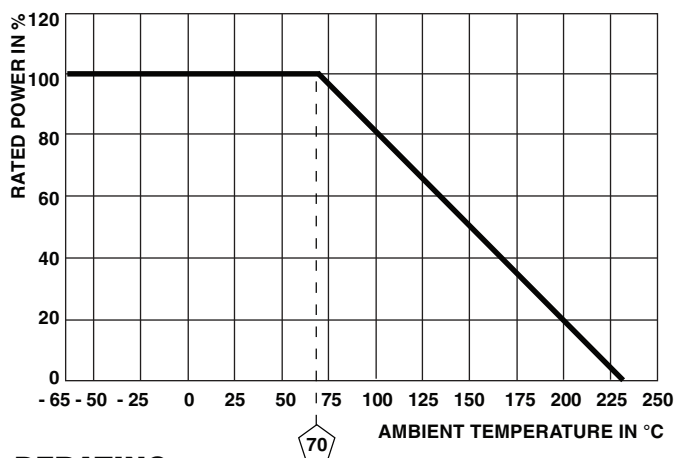
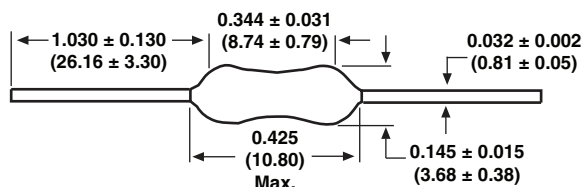
CCF-2	3010	F	R36
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

Note

- For additional information on packaging, refer to the Through-Hole Resistor Packaging document (www.vishay.com/doc?31544).



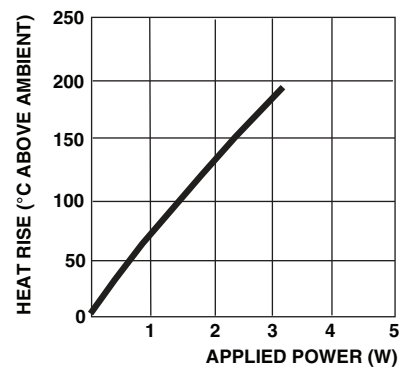
DIMENSIONS in inches (millimeters)



DERATING

Surface temperatures were taken with an infrared pyrometer in + 25 °C still air.

Resistors were supported by their leads in test clips at a point 0.5" (12.70 mm) out from the resistor body ends.



THERMAL RESISTANCE

PERFORMANCE	
TEST	MAX. ΔR (TYPICAL TEST LOTS)
Thermal Shock	$\pm 1.0 \%$
Short Time Overload	$\pm 0.5 \%$
Low Temperature Operation	$\pm 0.5 \%$
Moisture Resistance	$\pm 1.5 \%$
Resistance to Soldering Heat	$\pm 0.5 \%$
Shock	$\pm 0.5 \%$
Vibration	$\pm 0.5 \%$
Terminal Strength	$\pm 0.5 \%$
Dielectric Withstanding Voltage	$\pm 0.5 \%$
Life	$\pm 2.0 \%$



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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

Mouser Electronics

Authorized Distributor

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Vishay:

<u>CCF022K40JKR36</u>	<u>CCF028K45FKR36</u>	<u>CCF0218K2FKR36</u>	<u>CCF0224K0JKR36</u>	<u>CCF0211K0FKR36</u>
<u>CCF024R99FKR36</u>	<u>CCF0236K0JKR36</u>	<u>CCF022K20JKR36</u>	<u>CCF021M00FKR36</u>	<u>CCF02174KFKR36</u>
<u>CCF02100KFKR36</u>	<u>CCF0239R2FKR36</u>	<u>CCF02121RFKR36</u>	<u>CCF02220KJKR36</u>	<u>CCF02470RJKR36</u>
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