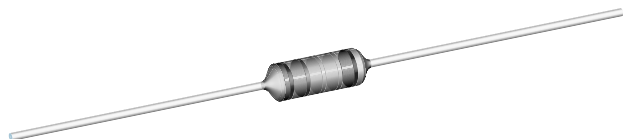


Metal Film Resistors, Industrial Power, Flameproof



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)
- Halogen-free according to IEC 61249-2-21 definition
- Compliant to RoHS directive 2002/95/EC



RoHS*
COMPLIANT
HALOGEN
FREE

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 $\pm$ ppm/ $^{\circ}\text{C}$	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 °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

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

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CCF02301RFRK36 (preferred part numbering format)

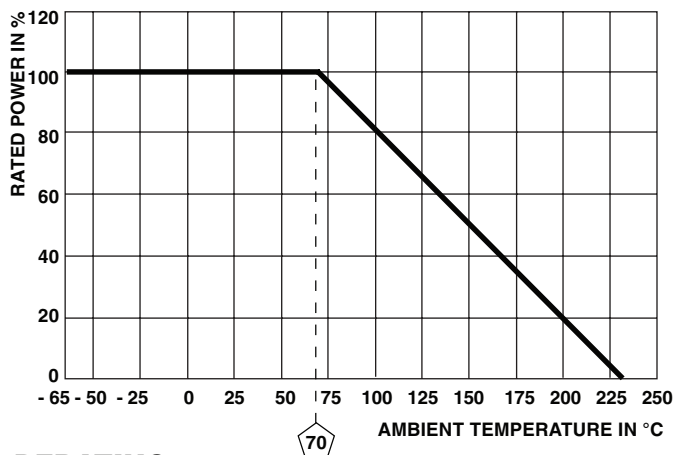
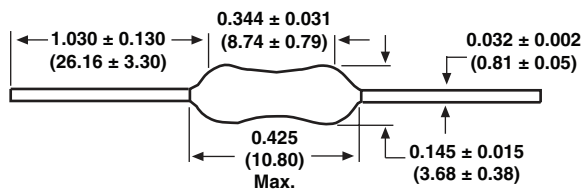
C	C	F	0	2	3	0	1	R	F	K	R	3	6			
GLOBAL MODEL		RESISTANCE VALUE				TOLERANCE CODE		TEMPERATURE COEFFICIENT		PACKAGING		SPECIAL				
CCF02		R = Ω K = k Ω M = M Ω 4R99 = 4.99 Ω 680K = 680 k Ω 1M00 = 1.0 M Ω				F = $\pm 1\%$ J = $\pm 5\%$		K = 100 ppm		E36 = Lead (Pb)-free, T/R (2500 pieces) R36 = Tin/Lead, 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

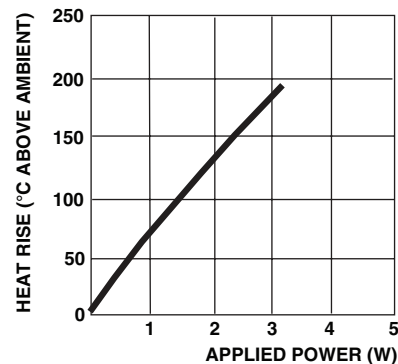
* Pb containing terminations are not RoHS compliant, exemptions may apply

DIMENSIONS in inches (millimeters)



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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