Vishay Dale



# Metal Film Resistors, Industrial, $\pm$ 2 % and $\pm$ 5 % Tolerance



#### **FEATURES**

• Dual power rating:  $P_{70} = 0.25 \text{ W}$  with 1.5 % stability  $P_{70} = 0.50 \text{ W}$  with 2.0 % stability

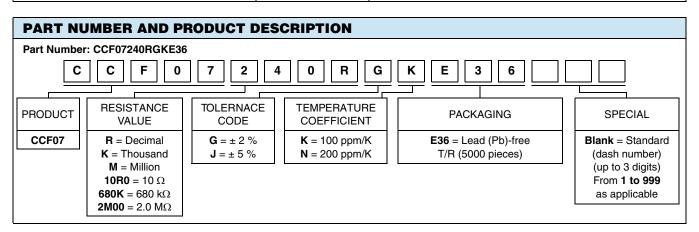


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- $\pm$  2 % and  $\pm$  5 % tolerance
- Temperature coefficient: ± 100 ppm/K and ± 200 ppm/K
- Tape and reel packaging for automatic insertion (52.4 mm inside tape spacing per EIA-296-E)
- Flame retardant epoxy conformal coating (red brown color)
- Standard 4 band color code marking for ease of identification after mounting
- Pure tin plating provides compatibility with lead (Pb)-free and lead containing soldering processes
- Compliant to RoHS directive 2002/95/EC

STANDARD ELECTRICAL SPECIFICATIONS								
PRODUCT	RATED DISSIPATION  P <sub>70</sub> W	LIMITING ELEMENT VOLTAGE MAX. V≅	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES		
CCF07	0.25/0.5	250	± 100	± 2, ± 5	10 $\Omega$ to 1 M $\Omega$	E24		
CCF07	0.25/0.5	250	± 200	± 5	1.1 M $\Omega$ to 2 M $\Omega$	E24		

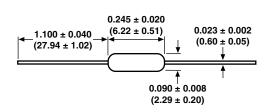
TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CCF07		
Rated Dissipation, P <sub>70</sub>	W	0.25/0.5		
Maximum Working Voltage, Umax.	V≅	≤ 250		
Insulation Voltage (1 Min)	V <sub>eff</sub>	500		
Dielectric Strength	V <sub>AC</sub>	450		
Insulation Resistance	Ω	≥ 10 <sup>11</sup>		
Operating Temperature Range	°C	- 65 to + 150		
Terminal Strength (Pull Test)	Ib	2		
Weight	g	0.35 max.		

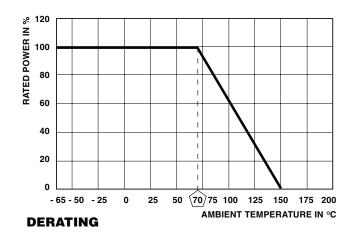


For technical questions, contact: filmresistorsleaded@vishav.com

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### **DIMENSIONS** in inches (millimeters)





#### **MARKING**

The nominal resistance and tolerance are marked on the resistor using four colored bands in accordance with IEC 60062, marking codes for resistors and capacitors.

#### **RESISTANCE VALUES**

Vishay Dale Model CCF07 is available in the standard 24 resistance values per decade. Values are obtained from the following decade table by multiplying by powers of 10. As an example: 24 can represent 24  $\Omega$ , 240  $\Omega$ , 2.4  $k\Omega$ , 24  $k\Omega$  or 240  $k\Omega$ 

by manapying by powers of 16.76 an example: 21 sain topicson 21 ag 21 tag 21 tag 21 tag 21 tag 21 tag 21 tag 21				
10	18	33	56	
11	20	36	62	
12	22	39	68	
13	24	43	75	
15	27	47	82	
16	30	51	91	

TECHNICAL SPECIFICATIONS				
TEST (1)	Max. ∆R (Typical Test Lots)			
Thermal Shock	± 1.0 %			
Short Time Overload	± 0.5 %			
Low Temperature Operation	± 0.5 %			
Moisture Resistance	± 1.5 %			
Resistance to Soldering Heat	± 0.5 %			
Shock/Bump	± 0.5 %			
Vibration	± 0.5 %			
Terminal Strength	± 0.5 %			
Dielectric Withstanding Voltage	± 0.5 %			
Life	± 1.5 % <sup>(2)</sup>			

#### Notes

- (1) Test specifications as per IEC 60115-1
- (2) Life  $\Delta R$  is ± 2.0 % for 1/2 W rating



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