CCF60 Vishay Dale

www.vishay.com

Metal Film Resistors, Industrial, ± 1 % Tolerance

FEATURES

- Power ratings: 1/2 W, 3/4 W and 1 W at + 70 °C
- ± 100 ppm/°C temperature coefficient
- Superior electrical performance
- Flame retardant epoxy conformal coating
- · Standard 5 band color code marking for ease of RoHS identification after mounting COMPLIANT
- 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

Note

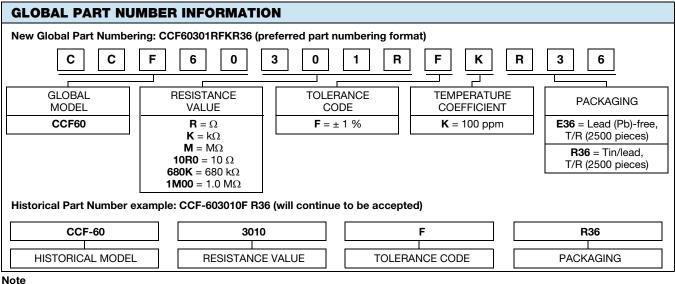
Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

STANDARD ELECTRICAL SPECIFICATIONS								
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P _{70 °C} W	MAXIMUM WORKING VOLTAGE ⁽¹⁾ V	TEMPERATURE COEFFICIENT ± ppm/°C	TOLERANCE ± %	RESISTANCE RANGE Ω	E-SERIES	
CCF60	CCF-60	1.0	500	100	1	10 to 1M	96	

Note

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

TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	CCF60			
Rated Dissipation at 70 °C	W	1.0			
Maximum Working Voltage	V	≤ 500			
Insulation Voltage (1 Min)	V _{eff}	500			
Dielectric Strength	V _{AC}	450			
Insulation Resistance	Ω	≥ 10 ¹¹			
Operating Temperature Range	O°	- 65 to + 165			
Terminal Strength (Pull Test)	lb	2			
Weight	g	0.75 max.			



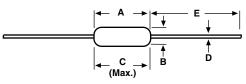




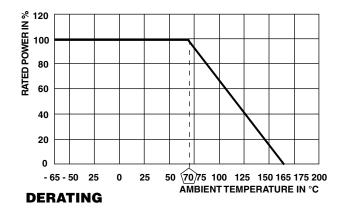
For additional information on packaging, refer to the Through-Hole Resistor Packaging document (www.vishay.com/doc?31544).

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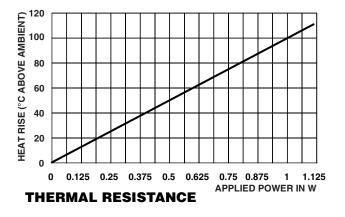
DIMENSIONS in inches (millimeters)



GLOBAL MODEL	A	В	C (Max.)	D	E
CCF60	0.344 ± 0.031	0.139 ± 0.009	0.400	0.025 ± 0.002	1.000 ± 0.040
	(8.74 ± 0.79)	(3.53 ± 0.23)	(10.16)	(0.64 ± 0.05)	(25.40 ± 1.02)



RESISTANCE VALUES						
Vishay Dale model CCF60 is available in the standard 96 resistance values per decade. Values are obtained from the following decade table by multiplying by powers of 10. As an example: 30.1 can represent 30.1 Ω , 301 Ω , 301 k Ω , 30.1 k Ω or 301 k Ω .						
10.0	14.7	21.5	31.6	46.4	68.1	
10.2	15.0	22.1	32.4	47.5	69.8	
10.5	15.4	22.6	33.2	48.7	71.5	
10.7	15.8	23.2	34.0	49.9	73.2	
11.0	16.2	23.7	34.8	51.1	75.0	
11.3	16.5	24.3	35.7	52.3	76.8	
11.5	16.9	24.9	36.5	53.6	78.7	
11.8	17.4	25.5	37.4	54.9	80.6	
12.1	17.8	26.1	38.3	56.2	82.5	
12.4	18.2	26.7	39.2	57.6	84.5	
12.7	18.7	27.4	40.2	59.0	86.6	
13.0	19.1	28.0	41.2	60.4	88.7	
13.3	19.6	28.7	42.2	61.9	90.9	
13.7	20.0	29.4	43.2	63.4	93.1	
14.0	20.5	30.1	44.2	64.9	95.3	
14.3	21.0	30.9	45.3	66.5	97.6	



MARKING

Color code marking with 5 color bands

PERFORMANCE					
POWER RATING AT + 70 °C	MAXIMUM ∆R (TYPICAL TEST LOTS)				
CCF60	1/2 W	3/4 W and 1 W			
TEST ⁽¹⁾					
Thermal Shock	± 0.5 %	-			
Short Time Overload	± 0.5 %	-			
Low Temperature Operation	± 0.5 %	-			
Moisture Resistance	± 1.5 %	-			
Resistance to Soldering Heat	± 0.5 %	-			
Shock	± 0.5 %	-			
Vibration	± 0.5 %	-			
Life	± 0.5 %	± 1.0 %			
Terminal Strength	± 0.2 %	-			
Dielectric Withstanding Voltage	± 0.5 %	-			

Note

⁽¹⁾ Test methods per MIL-STD-202

For technical questions, contact: <u>ff2aresistors@vishay.com</u>

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