Vishay Dale



Metal Film Resistors, Industrial Power, Flameproof



FEATURES

- · Small size suitable for 1/2, 1 & 2 watt 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)
- · Lead (Pb)-free version is RoHS Compliant





RoHS*

STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P ₇₀ °C	LIMITING ELEMENT VOLTAGE MAX.	TEMPERATURE COEFFICIENT	TOLERANCE	RESISTANCE RANGE	E-SERIES
		w	V ≃	ppm/°C	%	Ω	
CCF02	CCF-2	2.0	350	100	± 1, ± 5	4R99 - 1M	96 for 1 % tolerance 24 for 5 % tolerance

TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	CCF02			
Rated Dissipation at 70 °C	W	2.0			
Maximum Working Voltage	∨ ≅	≤ 350			
Insulation Voltage (1 min)	$V_{\rm eff}$	> 500			
Dielectric Strength	VAC	900			
Insulation Resistance	Ω	≥ 10 ¹¹			
Operating Temperature Range	°C	- 65 / + 230			
Terminal Strength (pull test)	lb	2			
Failure Rate	10 ⁻⁹ /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 ± 1 %			
- 4 band colorband for ± 5 %			

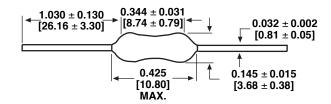
GLOBAL PART NUMBER INFORMATION						
New Global Part Nu	New Global Part Numbering: CCF02301RFKR36 (preferred part numbering format)					
C C F 0 2 3 0 1 R F K R 3 6						
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	TEMPERATURE COEFFICIENT	PACKAGING	SPECIAL	
CCF02	R = Decimal K = Thousand M = Million 4R99 = 4.99 Ω 680K = 680 kΩ 1M00 = 1.0 MΩ	F = ± 1 % J = ± 5 %	K = 100 ppm	E36 = Lead Free, T/R (250 R36 = Tin/Lead, T/R (250	<u> </u>	
Historical Part Num	ber example: CCF-23010	3010	be accepted)	F	R36	
HISTORICAL MOD	EL RESIS	STANCE VALUE	TOLERA	NCE CODE	PACKAGING	

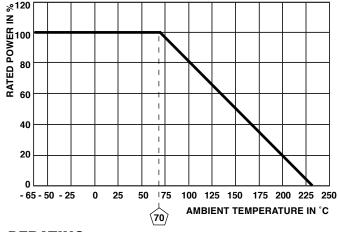
^{*} Pb containing terminations are not RoHS compliant, exemptions may apply

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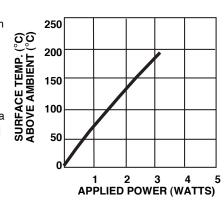
DIMENSIONS in inches [millimeters]





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.



DERATING

SURFACE TEMPERATURE vs POWER

PERFORMANCE			
TEST	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	± 0.5 %		
Vibration	± 0.5 %		
Terminal Strength	± 0.5 %		
Dielectric Withstanding Voltage	± 0.5 %		
Life	± 2.0 %		



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