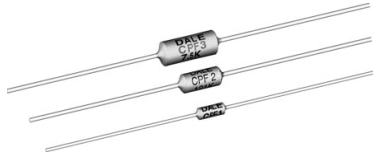


# Metal Film Resistors, Industrial Power, Flameproof



## FEATURES

- High power rating, small size
- Flameproof. high temperature coating
- Special filming and coating processes
- Excellent high frequency characteristics
- Low noise
- Low voltage coefficient
- Lead (Pb)-free version is RoHS compliant



RoHS\*  
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS									
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{70\text{ }^\circ\text{C}}$ W	LIMITING ELEMENT VOLTAGE MAX $V_{\equiv}$	RESISTANCE RANGE $\Omega$					
				0.1 % - 1 %	0.1 % - 5 %	0.5 % - 5 %	1 % - 5 %	1 %	2 % - 5 %
				25 ppm	50 ppm	100 ppm	150 ppm	200 ppm	200 ppm
CPF1	CPF-1	1	250	5 - 150K	5 - 150K	1 - 150K	R5 - 150K	R5 - 150K	R1 - 150K
CPF2	CPF-2	2	350	5 - 150K	5 - 150K	1 - 150K	R5 - 150K	R5 - 150K	R1 - 150K
CPF3	CPF-3	3	500	8 - 150K	8 - 150K	1 - 150K	1 - 150K	1 - 150K	R1 - 150K

**Note:**

Marking: Print marked - DALE, Model, Resistance value, Tolerance/Temperature Coefficient, Date Code

TEMPERATURE COEFFICIENT CODES		
GLOBAL TC CODE	HISTORICAL TC CODE	TEMPERATURE COEFFICIENT
E	T-9	25 ppm/ $^\circ\text{C}$
H	T-2	50 ppm/ $^\circ\text{C}$
K	T-1	100 ppm/ $^\circ\text{C}$
L	T-0	150 ppm/ $^\circ\text{C}$
N	T-00	200 ppm/ $^\circ\text{C}$

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CPF1	CPF2	CPF3
Rated Dissipation at 70 $^\circ\text{C}$	W	1	2	3
Limiting Element Voltage <sup>(1)</sup>	$V_{\equiv}$	250	350	500
Insulation Voltage	V-	900	900	900
Thermal Resistance	K/W	85	60	50
Insulation Resistance	$\Omega$	10 <sup>10</sup>		
Category Temperature Range	$^\circ\text{C}$	- 65 $^\circ\text{C}$ /+ 230 $^\circ\text{C}$		

**Note:**

<sup>(1)</sup> Rated Voltage  $\sqrt{P \times R}$

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CPF1562R00FKR36 (preferred part numbering format)

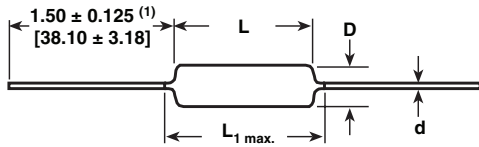
C	P	F	1	5	6	2	R	0	0	F	K	R	3	6			
GLOBAL MODEL			RESISTANCE VALUE			TOLERANCE CODE			TEMPERATURE COEFFICIENT			PACKAGING			SPECIAL		
CPF1 CPF2 CPF			R = Decimal K = Thousand R10000 = 0.1 $\Omega$ 10R000 = 10 $\Omega$ 150K00 = 150 $\Omega$			B = $\pm$ 0.1 % C = $\pm$ 0.25 % D = $\pm$ 0.5 % F = $\pm$ 1 % G = $\pm$ 2 % J = $\pm$ 5 %			E = 25 ppm H = 50 ppm K = 100 ppm L = 150 ppm N = 200 ppm			E14 = Lead (Pb)-free, Bulk E36 = Lead(Pb)-free, T/R (Full) EE6 = Lead (Pb)-free, T/R (1000 pieces) B14 = Tin/Lead, Bulk B36 = Tin/Lead, T/R (Full) BE6 = Tin/Lead, T/R (1000 pieces)			Blank = Standard (Dash Number) (up to 3 digits) From 1 - 999 as applicable		

Historical Part Number example: CPF-15620FT-1 R36 (will continue to be accepted)

CPF-1	5620	F	T-1	R36
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	TEMP. COEFFICIENT	PACKAGING

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

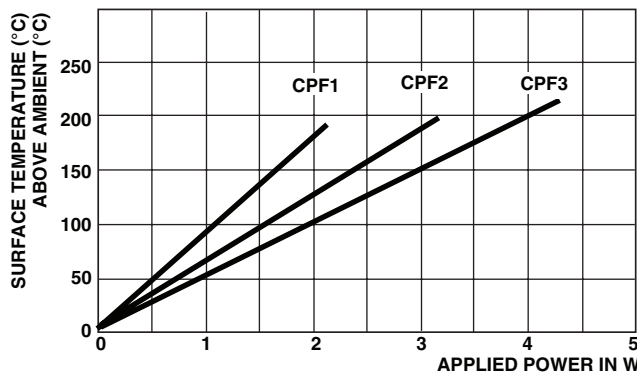
**DIMENSIONS**



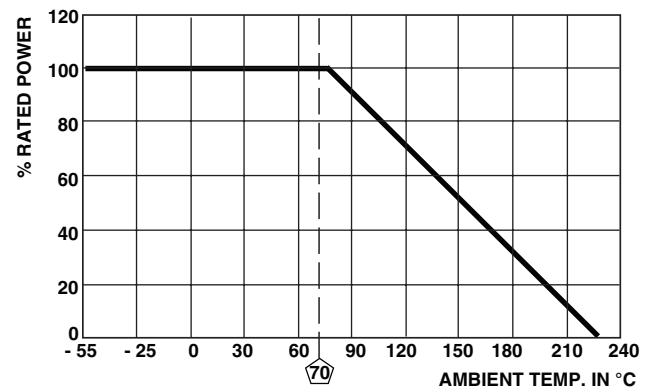
**Notes:**

- (1)  $1.08 \pm 0.125$  [27.43 ± 3.18] if tape and reel
- 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 0.500" [12.70 mm] out from the resistor body ends.

GLOBAL MODEL	DIMENSIONS in inches [millimeters]			
	L	D	L <sub>1 max.</sub>	d
CPF1	0.240 ± 0.020 [6.10 ± 0.51]	0.090 ± 0.008 [2.29 ± 0.20]	0.310 [7.87]	0.025 ± 0.002 [0.64 ± 0.05]
CPF2	0.344 ± 0.031 [8.74 ± 0.79]	0.145 ± 0.015 [3.68 ± 0.38]	0.425 [10.80]	0.032 ± 0.002 [0.81 ± 0.05]
CPF3	0.555 ± 0.041 [14.10 ± 1.04]	0.180 ± 0.015 [4.57 ± 0.381]	0.650 [16.51]	0.032 ± 0.002 [0.81 ± 0.05]



**SURFACE TEMPERATURE VS. POWER**



**DERATING**

MATERIAL SPECIFICATIONS	
Element:	Proprietary nickel-chrome alloy
Core:	Cleaned high purity ceramic
Coating:	Special high temperature conformal coat
Termination:	Standard lead material is solder-coated Solderable and weldable per MIL-STD-1276, Type C

MECHANICAL SPECIFICATIONS	
Terminal Strength:	2 pound pull test
Solderability:	Continuous satisfactory coverage when tested in accordance with MIL-STD-202, Method 208

PERFORMANCE	
TEST	MAX. ΔR (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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