

**INTRODUCTION**

The Carbon Film Resistors are highly reliable. These resistors are pyrolytically deposited and manufactured in streamlined automated assembly facilities under strict quality control procedures. The stable performance is achieved with the technology of film deposition onto a ceramic core with excellent thermal conductivity, mechanical strength and good electrical properties. Together with multi layers of epoxy coatings, the Carbon Film Resistors offer stability with long term reliability.

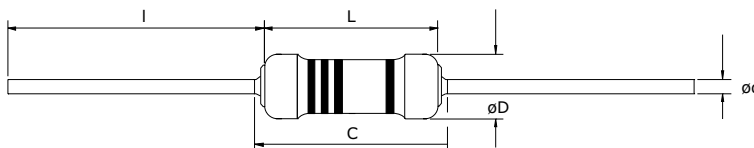
**FEATURES**

- Small size with high power ratings.
- Excellent long term stability.
- Wide Resistance Range.
- Lead Free

**RATINGS**

Type	CF 1/6	CF 1/4	CF1/4SS	CF 1/2	CF1/2SS	CF 1	CF 2
Power Rating @ 70°C	1/6W	1/4W	1/4W	1/2W	1/2W	1W	2W
Operating Temp. Range Derated to 0 Load at	-55°C to +155°C +155°C						
Maximum Working Voltage	200V	250V	250V	350V	350V	500V	500V
Maximum Overload Voltage	400V	500V	500V	700V	700V	700V	1000V
Resistance Range							
2%, E-24	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ
5%, E-24	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ	1Ω-22MΩ

**DIMENSIONS**

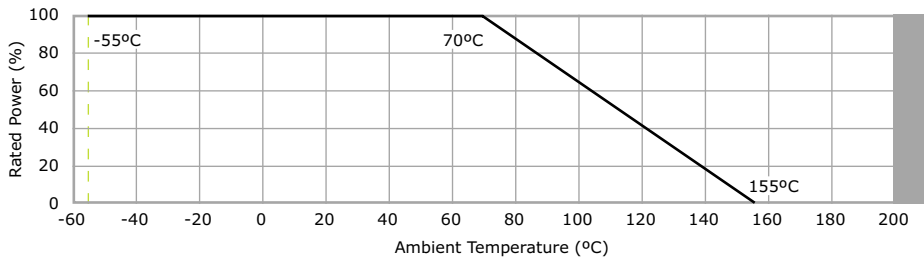


Type	DIMENSIONS (Millimeters)				
	L	C	D	l	d
CF1/6 / CF1/4SS	3.00± 0.4	3.5 Max	1.70± 0.2	28.0± 3.0	0.45± 0.05
CF1/4 / CF1/2SS	6.35± 0.5	7.1 Max	2.30± 0.3	28.0± 3.0	0.60± 0.05
CF1/2	9.00± 0.5	11.8 Max	3.20± 0.5	28.0± 3.0	0.60± 0.05
CF 1	12.00± 1.0	15.0 Max	4.50± 0.5	35.0± 3.0	0.80± 0.05
CF 2	16.00± 1.0	22.0 Max	5.00± 0.5	35.0± 3.0	0.80± 0.05

**PERFORMANCE CHARACTERISTICS**

Performance Test	Test Method	Specification	
DC Resistance	MIL-STD-202F, Method 303	± 2%, ± 5% Tolerance	
Resistance Temperature Coefficient 0.15≤100Ω >100Ω≤1KΩ >1KΩ≤100KΩ >100KΩ≤1MΩ >1MΩ≤5.1MΩ R>5.1MΩ	MIL-STD-202F, Method 304	± 300ppm/°C -450 to +0ppm/°C -750 to +0ppm/°C -1000 to +0ppm/°C -1750 to +350ppm/°C -2200 to 350ppm/°C	
Short Time Overload	MIL-R-55342E, Sect. 4.7.5	± (0.3% + 0.05Ω)	
Dielectric Withstanding Voltage	MIL-STD-202F, Method 301	± (0.5% + 0.05Ω) No Mechanical Damage	
Insulation Resistance	MIL-STD-202F, Method 302	>10 <sup>3</sup> MΩ	
Current Noise 1K >1K-10K >10K-100K >100K-910K >1M-2.2M >2.2M-5.1M >5.1M-10M	MIL-STD-202F, Method 308	<0.1μ v/v <0.2μ v/v <0.3μ v/v <0.6μ v/v <2μ v/v <3μ v/v <20μ v/v	
Solderability	MIL-STD-202F, Method 208	>95% coverage	
Resistance to Soldering Heat	MIL-R-55342E, Sect. 4.7.7	± (0.5% + 0.05Ω)	
Robustness of electrode (Terminal Strength)	MIL-STD-202F, Method 211	± (0.5% + 0.05Ω) No Mechanical Damage	
Resistance to Solvents	MIL-STD-202F, Method 215	No Damage to lacquer & colour coding	
Moisture Resistance	MIL-STD-202F, Method 106	± (1.5% + 0.05Ω)	
Temperature Cycling	MIL-STD-883F, Method 1010.7	± (1.0% + 0.05Ω)	
Low Temperature Operation	MIL-R-55342E, Sect. 4.7.4	± (0.5% + 0.05Ω)	
High Temperature Exposure	MIL-R-55342E, Sect. 4.7.6	± (1.0% + 0.05Ω)	
Thermal Shock	MIL-STD-202F, Method 107	± (1.0% + 0.05Ω)	
Loadlife	<100KΩ	MIL-STD-202F, Method 108	± (2.0% + 0.05Ω)
	≥100KΩ	MIL-STD-202F, Method 108	± (3.0% + 0.05Ω)

**DERATING CURVE**



**ORDERING CODE**

