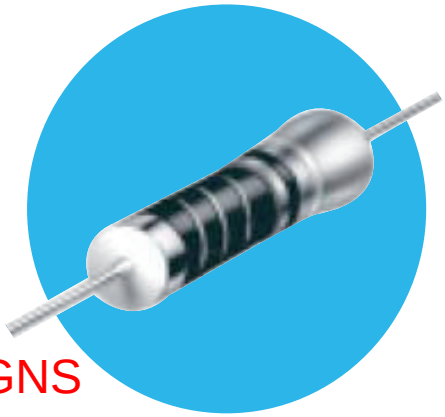
Resistors

General Purpose Carbon Film Resistors

CF Series



- High stability performance
- Only available as Lead Free
- Auto sequencing/insertion compatible
- Ideal for commercial/industrial applications

NOT RECOMMENDED FOR NEW DESIGNS

All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

		Tested per MIL-STD-202		
		CF 1/8	**CF 1/4**	**CF 1/2**
Power Rating (watts) at 70°C		1/8	1/4	1/2
Derated to 0 Load at		155°C		
Maximum Working Voltage		200V	250V	350V
Operating Temperature Range		-55°C to +155°C		
Resistance Range	**(±5%)**	1.0 Ω - 22 MΩ		
	(±2%)	10 Ω - 1 MΩ	10 Ω - 4.7 MΩ	10 Ω - 4.7 MΩ

Environmental Data

	CF 1/8	**CF 1/4**	**CF 1/2**
Moisture Resistance	<100 K ± (3% + 0.05 Ω)		
	>100 K ± (5% + 0.05 Ω)		
Thermal Shock	±0.5%		
Load life at 70°C - 1000 hours	<100 K ± (2% + 0.05 Ω)		
	<100 K ± (3% + 0.05 Ω)		
Shock and Vibration	±0.2%		
Resistance to Soldering Heat	±0.5%		
Terminal Strength	±0.5%		
Dielectric Withstand Voltage	300 volts RMS min.	500 volts RMS min.	700 volts RMS min.
Maximum Pulse Voltage	400V	600V	700V
Insulation Resistance	10,000 meg min.		
Voltage Coefficient	-10 ppm/Vmax.		
Short Time Overload	±0.75%		

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.
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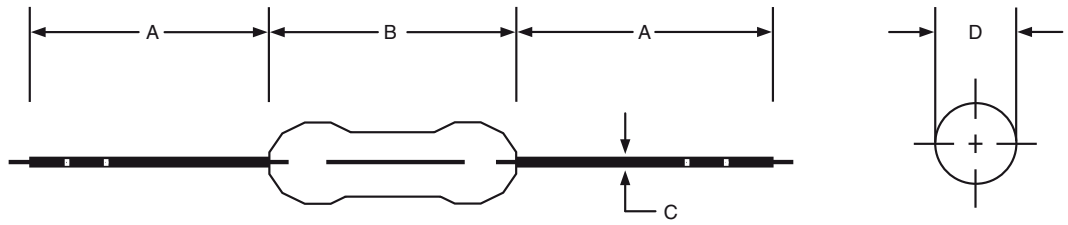
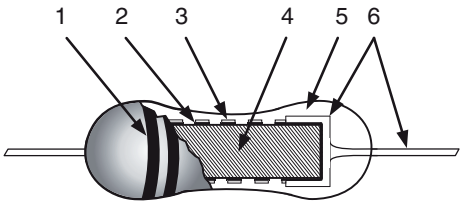
Physical Data



Dimensions (inches and (mm))			
Dimension	**CF 1/8**	**CF 1/4**	**CF 1/2**
A	1.10 ± .08 (28.0 ± 2.0)		
B	0.13 + .01/-.00 (3.2 + 0.2/-0.0)	0.24 ± .01 (6.0 ± 0.3)	0.33 ± .02 (8.5 ± 0.5)
C	0.018 ± .001 (0.45 ± 0.02)	0.022 ± .001 (0.55 ± 0.03)	0.026 ± .002 (0.65 ± 0.05)
D	0.07 ± .01 (1.8 ± 0.15)	0.09 ± .01 (2.3 ± 0.2)	0.11 ± .01 (2.8 ± 0.3)

Construction



1. COLOR BANDS.
The resistors are permanently color banded for resistance value and tolerance in accordance with EIA specifications.

2. HELIXING.
The units are helixed to a predetermined base to final value ratio to obtain the best TCR, noise and stability characteristics.

3. FILM.
Carbon-film resistors have a homogeneous film of pure carbon deposited by a pyrolitic process at carefully controlled temperatures.

4. SUBSTRATES.
The substrates are of a proprietary non alkaline ceramic, prepared and processed under exacting conditions to guarantee the utmost in uniformity and surface characteristics.

5. INSULATION.
The resistors are coated with multiple layers of a baked-on fire-retardant synthetic resin which provides the units with a high degree of mechanical and electrical protection in the most adverse operating conditions.

6. TERMINATIONS.
Positive contact is provided to the resistance element by precision-made end caps. The lead wires are attached by using proprietary welding techniques.

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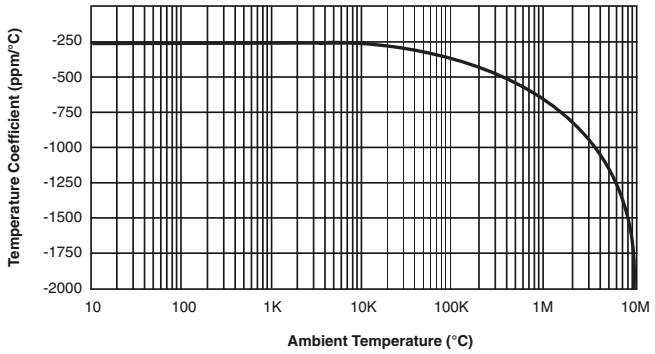
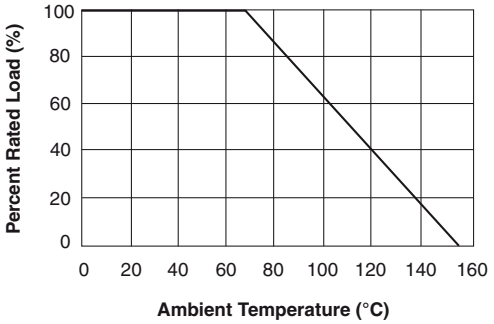
Performance Curves

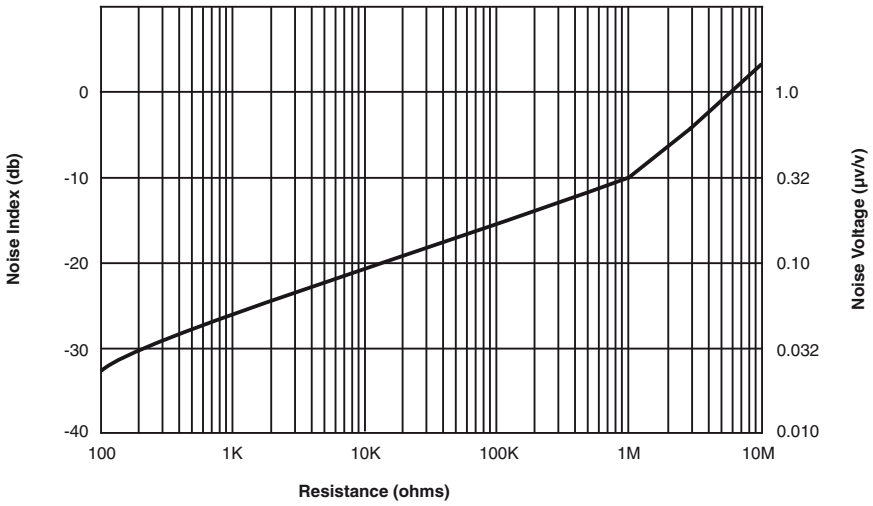
Temperature Coefficient (Typical)



Derating Curve (Typical)



Current Noise (Typical)



Ordering Data

Sample Part No. CF - 1/4 102 J BLK

IRC Type
CF

Size

Resistance Value
2 digit range and 1 digit multiplier

Tolerance
G = 2%
J = 5%
K = 10%

Packaging
BLK = Bulk

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