CFM series
Carbon Film MELF Resistors

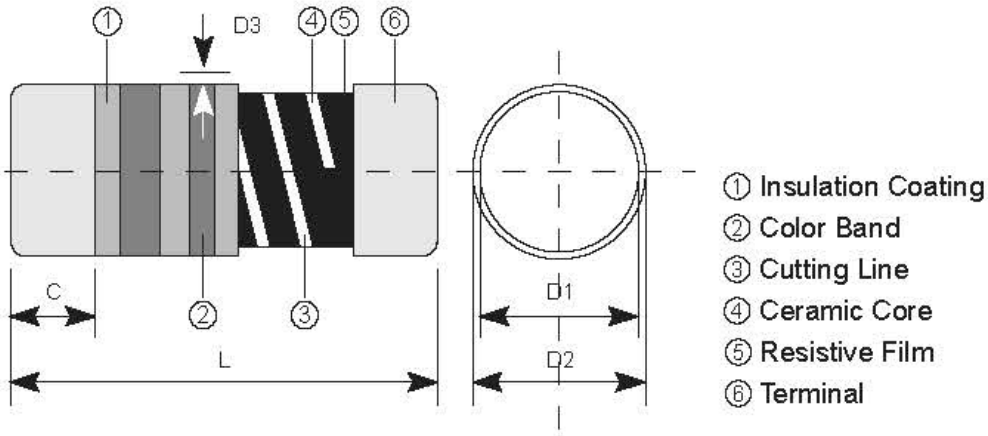
◆ Features

» SMD style carbon resistor.
» Free direction for mounting due to cylindrical design.
» High solder ability due to specially plated electrodes.
» Electrodes strength is higher than flat chip resistors.
» Lower current noise than thick film flat chip resistors.
» Suitable for reflow, flow and iron soldering.

◆ Application

» Telecommunication
» Medical Equipment
» Control Systems

◆ Dimension



Style	Dimension (mm)				
	L	D1	D2 Max	D3 Max	C Min
A (0102)	2.0±0.1	1.25±0.05	1.35	0.07	0.30
B (0204)	3.5±0.2	1.40±0.15	1.55	0.10	0.50
C (0207)	5.9±0.2	2.20±0.20	2.40	0.15	1.00
D (0309)	8.5±0.2	3.20±0.20	3.40	0.30	1.50

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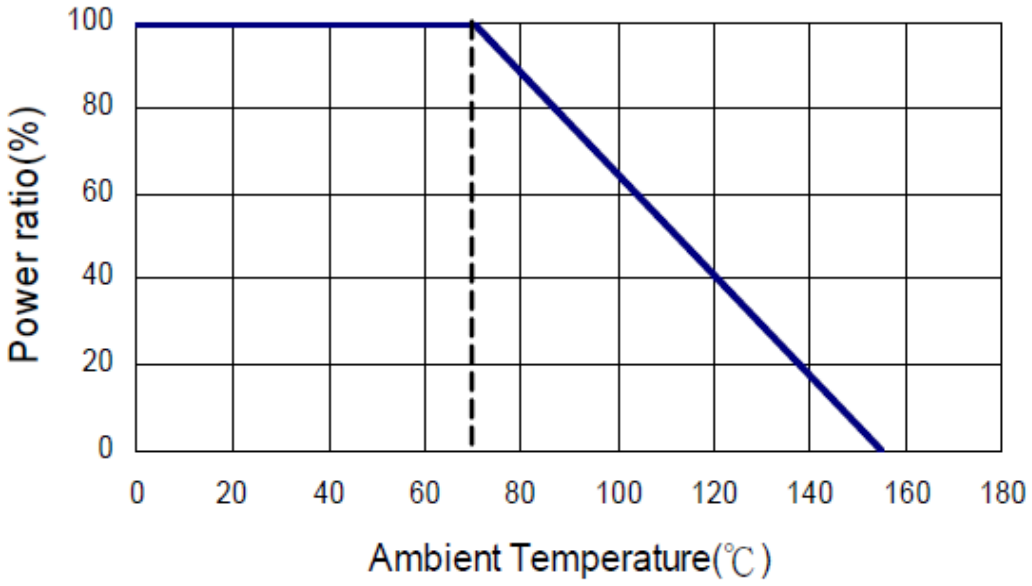
◆ Derating Curve



◆ Part Number

CFM	B	25S	G	R	-	1K
Type	Size	Watt	Tolerance	Packing	Special	R value
CFM	A=0102 B=0204 C=0207 C=0309	1/8W =12 1/4WS=25S 1/4W=25 1/2WS=50S 1W=100	G = ± 2% J = ± 5%	R = Taping Reel B = Bulk	Base on Spec.	1KΩ = 1K 100Ω = 100R

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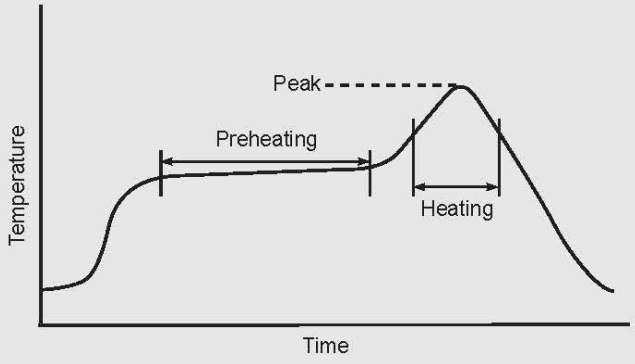
◆ Recommended soldering conditions



Reflow soldering (lead-free)

Status	Temperature	Time
Preheating	180°C Max	120 sec. Max
Main heating	220°C Max	60 sec. Max
Peak	260°C Max	3 sec. Max

Flow soldering (lead-free)

Status	Temperature	Time
Soldering	260°C Max	10 sec. Max

◆ Specification

Size	Power rating at 70℃	Resistance		Operating Temp. Range	Max. Working Voltage	Max. Overload Voltage
		±2%	±5%			
0102	0.125W (1/8WS)	1Ω-1M	1Ω-1M	-55℃ to +155℃	150V	300V
0204	0.125W (1/8W)	1Ω-1M	1Ω-1M		200V	400V
	0.25W (1/4WS)				250V	500V
0207	0.25W (1/4W)	1Ω-1M	1Ω-1M		250V	500V
	0.5W (1/2WS)	1Ω-1M	1Ω-1M		300V	600V
	1WSS (1W)	1Ω-1M	1Ω-1M		400V	600V
0309	0.5W	1Ω-1M	1Ω-1M		350V	700V
	1WS	1Ω-1M	1Ω-1M		500V	1000V

Operating Voltage=$\sqrt{}$(P*R) or Max. operating voltage listed above, whichever is lower.
Overload Voltage=2.5*$\sqrt{}$(P*R) or Max. overload voltage listed above, whichever is lower.
Faithfullink is capable of manufacturing the optional spec based on customer's requirement.

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◆ Environmental Characteristics

Item	Characteristics					Test Method
1. Temp. Coefficient	T.C.R. (ppm/℃)	0～ -450	0～ -700	0～ -1000	0～ -1300	JIS-C-5202; 5.2
	0204	Under 47KΩ	51KΩ～ 220KΩ	240KΩ～ 470KΩ	Over 510KΩ	
	Over 0207	Under 100KΩ	110KΩ～ 1MΩ	1.1MΩ～ 2.2MΩ	Over 2.2MΩ	
2. Short time overload	±(1%+0.05Ω)					JIS-C-5202; 5.5
3. Pulse overload	±(2%+0.05Ω)					JIS-C-5202; 5.8
4. Temperature cycling	±(1%+0.05Ω)					JIS-C-5202; 7.4
5. Load Life	±(5%+0.05Ω)					JIS-C-5202; 7.10
6. Resistance to soldering heat	±(2%+0.05Ω)					JIS-C-5202; 6.4
7. Solderability	90% Coverage/Min					JIS-C-5202; 6.5
8. Non-Combustibility	No evidence of flaming					UL-94; V-0

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◆ Packing

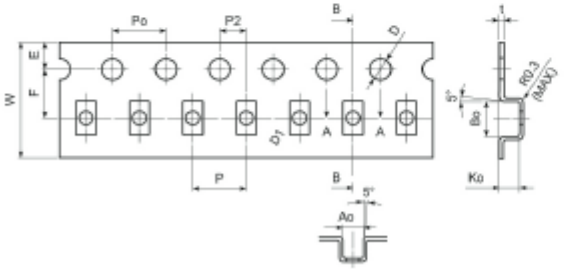
Size code	Tape/Reel Q'ty (pcs)			Bulk Q'ty (pcs)	Weight (g)	
	Reel	Case	Carton	Bag	Reel/pc	Net/Kpcs
A (0102)	3,000	15,000	180,000	5,000	-	-
B (0204)	3,000	15,000	180,000	5,000	390.5	18
C (0207)	2,000	8,000	96,000	5,000	383.5	155
D (0309)	2,500	2,500	15,000	5,000	2,505	160

▾Embossed taping dimension

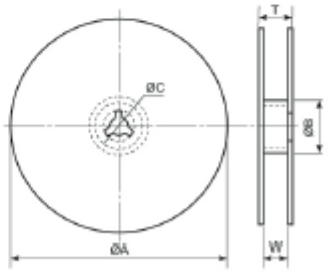
Type	W	P	E	F	D	D_1	P_0	P_2	A_0	B_0	K_0	t
0102	8±0.1	4±0.1	1.75±0.1	3.5±0.05	1.5±0.1	1.0±0.1	4±0.1	2±0.1	1.6±0.1	3.70±0.1	1.65±0.1	0.22±0.05
0204	8±0.1	4±0.1	1.75±0.1	3.5±0.05	1.5±0.1	1.0±0.1	4±0.1	2±0.1	1.6±0.1	3.70±0.1	1.65±0.1	0.22±0.05
0207	12±0.1	4±0.1	1.75±0.1	5.5±0.05	1.5±0.1	1.5±0.1	4±0.1	2±0.1	2.4±0.1	6.05±0.1	2.50±0.1	0.30±0.05
0309	16±0.1	8±0.1	1.75±0.1	7.5±0.10	1.5±0.1	1.5±0.1	4±0.1	2±0.1	3.5±0.1	8.85±0.1	3.50±0.1	0.35±0.05

▾Tape/Reel dimension

Type	ØA	ØB	ØC	W	T
0102	178±1	60.0±0.5	13.0±0.2	9.0±0.5	12.0±0.15
0204	178±1	60.0±0.5	13.0±0.2	9.0±0.5	12.0±0.15
0207	178±1	60.0±0.5	13.0±0.5	13.2±0.5	16.0±0.20
0309	330±1	100±1.0	13.0±0.5	17.0±0.5	21.5±0.20



▲ Embossed taping dimension



▲ Tape/Reel dimension

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