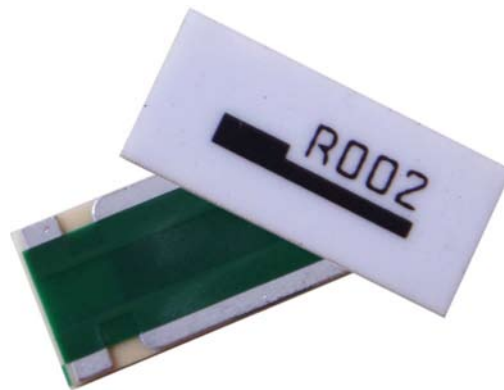


FC4L Series

FC4L Four Terminal Current Sense Metal Foil Construction



CURRENT
SENSE

FEATURES

- Foil Construction ensures a very stable TCR (Temperature Coefficient of Resistance)
- Designed for automatic insertion
- Industry standard sizes
- High heat resistant use
- Low heat electromotive use
- Color: white (top) and green (bottom)

Ohmite extends its FC4L Series with this 4-terminal Kelvin type FC4L derivative in 2 watt and 5 watt package sizes. Employing the same Ni-Cu-Mn resistive element this product affords the user an added advantage of a built in 4-terminal design with 2 larger electrodes for current management and 2 smaller electrodes for current measurement.

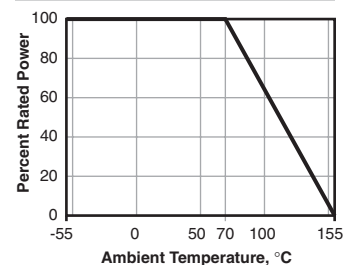
SERIES SPECIFICATIONS

Series	Power Rating	Resistance Range	Tol.	TCR (ppm/°C)	Weight (g)
FC4L64	2W	1mΩ	±5%	±100	0.0378
		2mΩ	±2%	±100	
		3mΩ	±1%	±100	
		4mΩ ~ 100mΩ	±1%	±50	
FC4L110	5W	1mΩ	±5%	±100	0.1096
		2mΩ	±2%	±50	
		3mΩ ~ 50mΩ	±1%	±50	

CHARACTERISTICS

Test Condition	Maximum ΔR																		
Max. temperature for rated power 70°C																			
Operating temperature range -55°C ~ +155°C																			
Rated voltage $\sqrt{(\text{Rated power} \times \text{Resistance value})}$ V																			
In-rush current Rated current 10 msec ON, 60 sec OFF, 10 cycles.	±(1.0% +0.0005Ω)																		
<table border="1"> <thead> <tr> <th>Series</th> <th>Power Rating</th> <th>Resistance Range</th> <th>In-rush Power</th> <th>Max. Current</th> </tr> </thead> <tbody> <tr> <td rowspan="2">FC4L64</td> <td rowspan="2">2 watt</td> <td>1mΩ~9mΩ</td> <td>100W</td> <td>85A</td> </tr> <tr> <td>10mΩ~100mΩ</td> <td>50W</td> <td>35A</td> </tr> <tr> <td>FC4L110</td> <td>5 watt</td> <td>1mΩ~50mΩ</td> <td>100W</td> <td>100A</td> </tr> </tbody> </table> In-rush current = $\sqrt{(\text{in-rush power}/\text{resistance value})}$, or max. current, whichever is smaller	Series	Power Rating	Resistance Range	In-rush Power	Max. Current	FC4L64	2 watt	1mΩ~9mΩ	100W	85A	10mΩ~100mΩ	50W	35A	FC4L110	5 watt	1mΩ~50mΩ	100W	100A	
Series	Power Rating	Resistance Range	In-rush Power	Max. Current															
FC4L64	2 watt	1mΩ~9mΩ	100W	85A															
		10mΩ~100mΩ	50W	35A															
FC4L110	5 watt	1mΩ~50mΩ	100W	100A															
Rapid change of temperature -55°C (30min.)/+155°C (30min.), 100 cycles	±(1.0% +0.0005Ω)																		
Solderability 245°C ±5°C for 3 ±0.5 sec.	Min. 90% coverage																		
Endurance at 70°C 70°C ±3°C, Rated voltage 1.5h ON, 0.5h OFF, 1000h	±(1.0% +0.0005Ω)																		
Resistance to soldering heat 260°C ±5°C for 10 ±1 sec.	±(1.0% +0.0005Ω)																		
Moisture resistance 60°C ±2°C, 90~95% RH, Rated voltage 1.5h ON, 0.5h OFF, 1000h	±(2.0% +0.0005Ω)																		

Derating

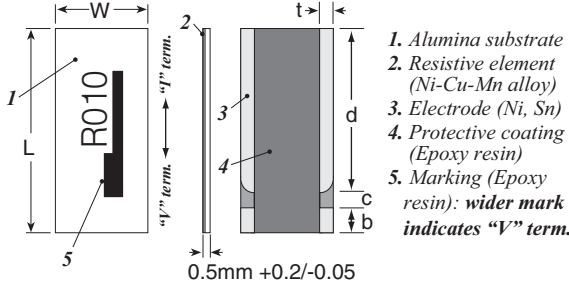


FC4L Series

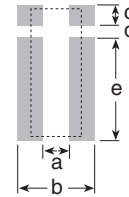
FC4L Four Terminal Current Sense Metal Foil Construction

CURRENT
SENSE

DIMENSIONS



Land Pattern



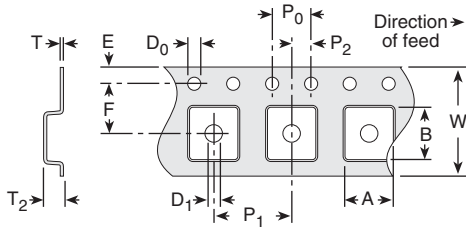
Rating	L (in.±.008/mm ±0.20)	W (in.±.008/mm ±0.20)	t mm ±0.15	b mm ±0.15	c mm ±0.1	d mm ±0.15	
FC4L64	2 watt	0.251 / 6.40	0.126 / 3.2	0.020 / 0.5	0.7	0.5	5.2
FC4L110	5 watt	0.433 / 11.0	0.197 / 5.0	0.028 / 0.7	1.4	1.1	8.5

(mm)	a	b	c	d	e
FCSL65	2.0	4.4	0.7	0.5	5.4
FCSL110	3.2	5.6	1.6	1.1	8.7

PACKAGING SPECIFICATIONS

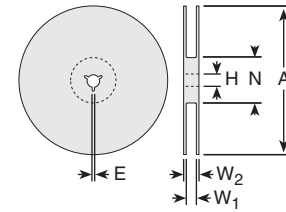
inches (mm)

Tape



	FC4L64	FC4L110
A	0.135 (3.43 ±0.2)	0.211 (5.36 ±0.1)
B	0.261 (6.63 ±0.2)	0.463 (11.74 ±0.1)
W	0.472 (12.0 ±0.3)	0.945 (24.0 +0.3/-0.1)
E	0.069 (1.75 ±0.1)	0.069 (1.75 ±0.1)
F	0.217 (5.5 ±0.05)	0.453 (11.50 ±0.1)
P0	0.157 (4.0 ±0.1)	0.157 (4.0 ±0.1)
P1	0.157 (4.0 ±0.1)	0.315 (8.0 ±0.1)
P2	0.079 (2.0 ±0.05)	0.185 (2.0 ±0.1)
D0	0.059 (1.5 +0.1/-0)	0.059 (1.5 +0.1/-0)
D1	0.059 (1.5 +0.2/-0)	0.059 (1.5 +0.25/-0)
T	0.008 (0.20 ±0.05)	0.013 (0.33 ±0.02)
T2	0.059 (1.5) max.	0.077 (1.96 ±0.1)

Reel



	FC4L64	FC4L110
A	7.087 (180 +0/-3)	12.992 (330 ±2.0)
H	0.512 (13 ±0.2)	0.512 (13 ±0.2)
E	0.079 (2.0 ±0.5)	0.079 (2.0 ±0.5)
N	2.362 (60 +1/-0)	3.937 (100 ±1.0)
W1	0.512 (13.0 ±0.3)	1.000 (25.4 ±1.0)
W2	0.669 (17.0 ±1.4)	1.157 (29.4 ±1.0)

ORDERING INFORMATION

RoHS Compliant

FC4L110R005FER

Series	Package Size	Ohms	Tolerance	Taping Code
	110=11050=5W 64=6432=2W	R005=0.005Ω R050=0.050Ω	J = 5% G = 2% F = 1%	R = 1,000 pc/reel

Standard Part Numbers for FC4L series

2 watt	5 watt	Resistance Value	Tolerance
FC4L64R001JE	FC4L110R001JE	0.001	5%
FC4L64R002GE	FC4L110R002GE	0.002	2%
FC4L64R003FE	FC4L110R003FE	0.003	1%
FC4L64R005FE	FC4L110R005FE	0.005	1%
FC4L64R010FE	FC4L110R010FE	0.010	1%
FC4L64R025FE	FC4L110R025FE	0.025	1%
FC4L64R050FE	FC4L110R050FE	0.050	1%