

# RW1/RW2 Series

## Surface Mount Four Terminal Current Sense



### FEATURES

- Extremely low resistance and high precision tolerance
- Low T.C.R. achieved ( $\pm 50 \text{ ppm}/^\circ\text{C}$ )
- Flameproof UL94-V-0
- Marking: Black body color with white marking

### SERIES SPECIFICATIONS

Type	Power Rating (watts)	Resistance Range E-12 (m $\Omega$ )	Resistance Tolerance	Dielectric Withstanding Voltage	TCR (max. ppm/ $^\circ\text{C}$ )	Qty./Reel
RW1S0CK	1	5m $\Omega$ - 50m $\Omega$	1%	500V	$\pm 50$	1000
RW2S0DK	2	5m $\Omega$ - 50m $\Omega$	1%	500V	$\pm 50$	1000

### CHARACTERISTICS

TCR max.  $\pm 50 \text{ ppm}/^\circ\text{C}$

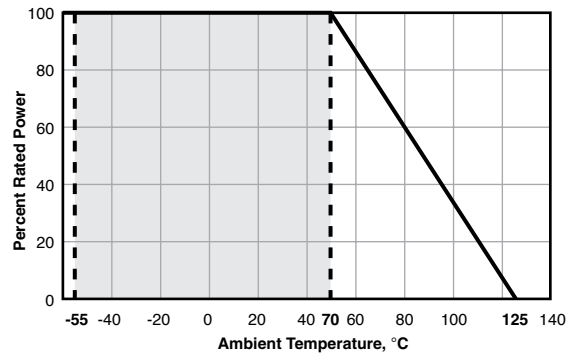
Rated Ambient Temp.  $+70^\circ\text{C}$

Operating Temp. Range  $-55^\circ\text{C} - +125^\circ\text{C}$

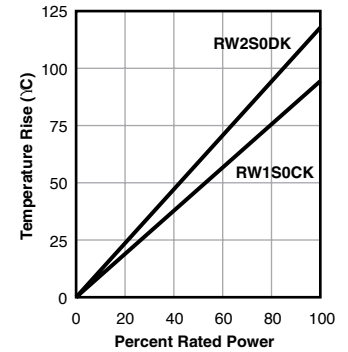
#### Typical Schematic



#### Derating



#### Surface Temperature Rise



### PERFORMANCE DATA

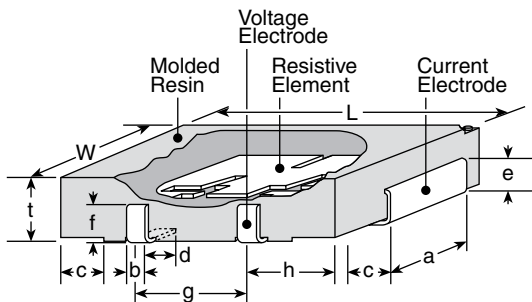
Parameter	Requirement $\Delta R$		Test Method
	Limit	Typical	
Resistance	Within regulated tolerance	—	$25^\circ\text{C}$
T.C.R.	Within specified T.C.R.	—	$+25^\circ\text{C}/-55^\circ\text{C}$ and $+25^\circ\text{C}/+125^\circ\text{C}$
Overload	$\pm 1.0\%$	$\pm 1.0\%$	Rated power x 5 for 5 seconds
Resistance to Solder Heat	$\pm 1.0\%$	$\pm 1.0\%$	$260^\circ\text{C} \pm 5^\circ\text{C}$ , 10 seconds $\pm 1$ second
Rapid Change of Temperature	$\pm 1.0\%$	$\pm 0.5\%$	$-55^\circ\text{C}$ (30 minutes), $+125^\circ\text{C}$ (30 minutes), 500 cycles
Moisture Resistance	$\pm 2.0\%$	$\pm 0.5\%$	$40^\circ\text{C} \pm 2^\circ\text{C}$ , 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at $70^\circ\text{C}$	$\pm 1.0\%$	$\pm 0.5\%$	$70^\circ\text{C} \pm 2^\circ\text{C}$ , 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Operation	$\pm 0.5\%$	$\pm 0.25\%$	$-55^\circ\text{C}$ , 1 hour
High Temperature Exposure	$\pm 0.5\%$	$\pm 0.25\%$	$+125^\circ\text{C}$ , 100 hours

# RW1/RW2 Series

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### DIMENSIONS

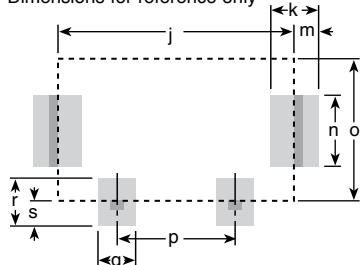
(in./mm)



	RW1S0CK	RW2S0DK
L	0.425±.02 (10.8±0.5)	0.504±.02 (12.8±0.5)
W	0.244±.012 (6.2±0.3)	0.323±.012 (8.2±0.3)
t	0.083±.008 (2.1±0.2)	0.122±.008 (3.1±0.2)
a	0.118±.012 (3.0±0.3)	0.197±.012 (5.0±0.3)
b	0.031±.008 (0.8±0.2)	0.039±.008 (1.0±0.2)
c	0.055±.02 (1.4±0.5)	0.079±.02 (2.0±0.5)
d	0.047±.02 (1.2±0.5)	0.079±.02 (2.0±0.5)
e	0.051±.012 (1.3±0.3)	0.087±.012 (2.2±0.3)
f	0.051±.012 (1.3±0.3)	0.087±.012 (2.2±0.3)
g	0.197±.004 (5.0±0.1)	0.236±.004 (6.0±0.1)
h	0.098±.004 (2.5±0.1)	0.118±.004 (3.0±0.1)
j	0.39 (10.0)	0.47 (12.0)
k	0.08 (2.0)	0.09 (2.3)
m	0.04 (1.0)	0.05 (1.15)
n	0.12 (3.0)	0.21 (5.3)
o	0.24 (6.0)	0.31 (8.0)
p	0.20 (5.0)	0.24 (6.0)
q	0.06 (1.6)	0.09 (2.2)
r	0.08 (2.0)	0.13 (3.2)
s	0.04 (1.0)	0.06 (1.6)

### Land Pattern

Dimensions for reference only



### ORDERING INFORMATION

RoHS Compliant

## RW1S0CKR005FET

<b>Type &amp; Power Rating</b> RW1S0CK = 1 watt RW2S0DK = 2 watt	<b>Ohms</b> R005 = 0.005Ω R050 = 0.05Ω	<b>Tolerance</b> F = 1% D = 0.5%	<b>Packaging</b> T = tape and reel (optional)
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The part itself will be marked as follows:

**CSR1**

**10m ohms D** — Tolerance

F = 1%  
D = 0.5%

Ohms  
10m ohms = 0.01Ω

### Standard Part Numbers for RW Series

Ohms	Wattage:		
	1 watt		2 watt
Tolerance:	1%	0.5%	1%
0.00500	Series: RW1S0CK---FET	RW1S0CK---DET	RW2S0DK---FET
0.01000	RW1S0CKR005FET	RW1S0CKR010DET	RW2S0DKR005FET
0.02500	RW1S0CKR025FET	RW1S0CKR025DET	RW2S0DKR010FET
0.05000	RW1S0CKR050FET	RW1S0CKR050DET	RW2S0DKR025FET
			RW2S0DKR050FET

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