



On-Site Components, LLC

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Features:

- Self-extinguishing
- Excellent flame and moisture resistance
- Extremely small, sturdy and mechanically safe
- Non-inductive types available for all cement types
- Availability of very low or very high ohmic values on wirewound and power film types

Explanation of Part Numbers:

SQM	5W	102	J
1	2	3	4

1 Style:

SQ	SQM	SPS	SQZC	SQZD	SQHG
SQT	SQMA	SQZA	SQVA	SQU	
SQC	SQMB	SQZB	SQVB	TFM	

2 Wattage:

1 w = 1 watt	5 w = 5 watt	15 w = 15 watt
2 w = 2 watt	7 w = 7 watt	20 w = 20 watt
3 w = 3 watt	10 w = 10 watt	25 w = 25 watt

3 Nominal Resistance Value:

E24 Series (5% Tolerance)

The first two digits are significant figures of resistance and the third digit denotes the number of zeros (decimal point is expressed by the letter "R").

i.e. 102 = 1k Ω
1R2 = 1.2 Ω

E96 Series (1% Tolerance)

The first three digits are significant figures of resistance and the fourth digit denotes the number of zeros.

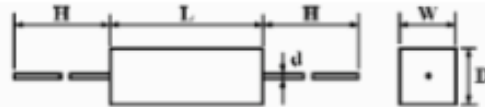
i.e. 1001 = 1k Ω
10R0 = 10 Ω

4 Tolerance:

F = 1% J = 5%
G = 2% K = 10%

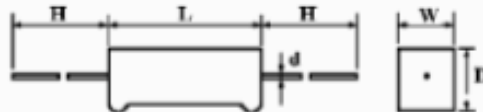


(1) SQ Type



Style	Dimension (mm)					Resistance Range	
	W±1	D±1	L±1	d ^{+0.02} _{-0.05}	H±5	Wirewound	Power Film
SQ 2W	7	7	18	0.6	28	0.1Ω~27Ω	28Ω~33KΩ
SQ 3W	8	8	22	0.7	35	0.1Ω~30KΩ	40Ω~56KΩ
SQ 5W	10	9	22	0.7	35	0.1Ω~47Ω	48Ω~100KΩ
SQ 7W	10	9	35	0.8	35	0.1Ω~680Ω	681Ω~200KΩ
SQ 10W	10	9	49	0.8	35	0.1Ω~910KΩ	911Ω~200KΩ
SQ 15W	12.5	11.5	49	0.8	35	1Ω~1KΩ	
SQ 20W	14.5	13.5	60	0.8	35	2Ω~1.2KΩ	
SQ 25W	14.5	13.5	64	0.8	35	2Ω~1.2KΩ	

(2) SQT Type



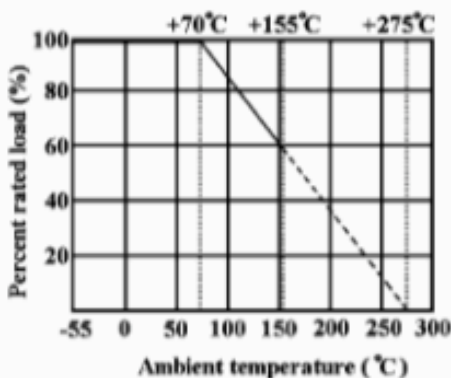
Style	Dimension (mm)					Resistance Range	
	W±1	D±1	L±1	d ^{+0.02} _{-0.05}	H±5	Wirewound	Power Film
SQT 2W	7	7	18	0.7	28	0.1Ω~27Ω	28Ω~33KΩ
SQT 5W	10	9	22	0.8	35	0.1Ω~47Ω	48Ω~100KΩ
SQT 7W	10	9	35	0.8	35	0.1Ω~680Ω	681Ω~200KΩ
SQT 10W	10	9	49	0.8	35	0.1Ω~910KΩ	911Ω~200KΩ

(3) SQC Type

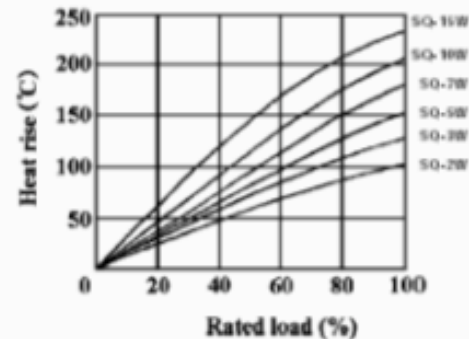


Style	Dimension (mm)					Resistance Range	
	W±1	D±1	L±1	d ^{+0.02} _{-0.05}	H±5	Wirewound	Power Film
SQC 3W	6	6	20	0.7	28	1Ω-27Ω	28Ω-33KΩ
SQC 5W	6	6	25	0.8	35	1Ω-200Ω	201Ω-100KΩ
SQC 7W	9	9	25	0.8	35	1Ω-200Ω	201Ω-100KΩ

Derating Curve



Heat Rise Chart





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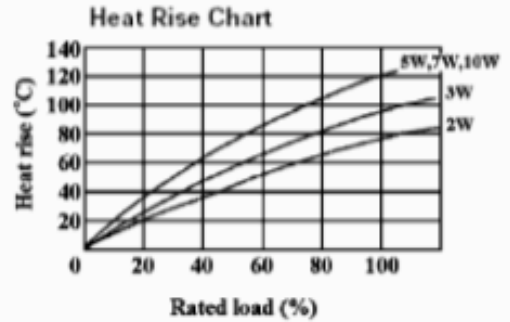
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(4) SQM Type

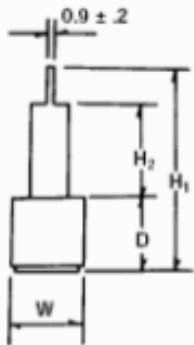


*2W, 3W, 5W, SQMA 5W, SQMA 10W, SQMB 7W:
 Leads centered

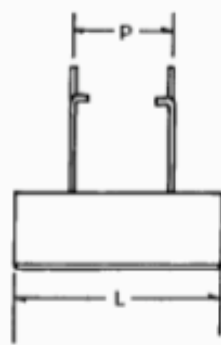


Style	Dimension (mm)					Resistance Range	
	W±1	D±1	L±1	od ^{+0.02} _{-0.05}	P±1	Wirewound	Power Film
SQM 2W	11.5	7.5	20	0.7	5	0.1Ω-27Ω	28Ω-33KΩ
SQM 3W	12.5	8.5	25	0.7	5	0.1Ω-39Ω	40Ω-56KΩ
SQM 5W	12.5	9	25	0.8	5	0.1Ω-47Ω	48Ω-100KΩ
SQM 7W	12.5	9	38	0.8	5	0.1Ω-680Ω	681Ω-200KΩ
SQM 10W	12.5	9	50	0.8	5	0.1Ω-910Ω	911Ω-200KΩ
SQMA 5W	12.5	9	25	0.8	7.5	0.1Ω-47Ω	48Ω-100KΩ
SQMA 10W	16	12	35	0.8	7.5	0.1Ω-560Ω	561Ω-100KΩ
SQMB 7W	12.5	9	38	0.8	5	0.1Ω-680Ω	681Ω-200KΩ

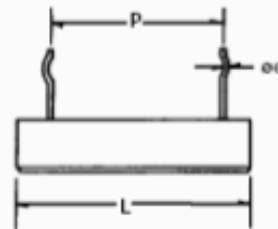
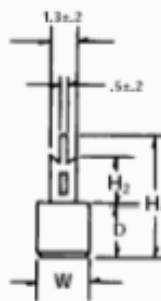
SQMA Type



od



SQMB Type





Performance Specifications

Characteristics	Test Methods	Limits															
Temperature coefficient JIS - C - 5202 5.2	Natural resistance change per temp. degree centigrade. $\frac{R_2 - R_1}{R_1 (t_2 - t_1)} \times 10^6 \text{ (PPM / } ^\circ\text{C)}$ R ₁ : Resistance value at room temperature (t ₁) R ₂ : Resistance value at room temp. plus 100 °C (t ₂)	≤ 350 PPM / °C < 20Ω ± 400 PPM / °C															
Dielectric withstanding voltage JIS - C - 5202 5.7	Resistors shall be clamped in the trough of a 90° metallic V- block and shall be tested at AC potential respectively for 60+ 10 / -0 seconds.	No evidence of flashover, mechanical damage, arcing or insulation break down.															
Temperature cycling JIS - C - 5202 7.4	Resistance change after continuous five cycles for duty cycle specified below: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55°C ± 3°C</td> <td>30 minutes</td> </tr> <tr> <td>2</td> <td>Room temp</td> <td>10-15 minutes</td> </tr> <tr> <td>3</td> <td>+ 155°C ± 2°C</td> <td>30 minutes</td> </tr> <tr> <td>4</td> <td>Room temp</td> <td>10-15 minutes</td> </tr> </tbody> </table>	Step	Temperature	Time	1	-55°C ± 3°C	30 minutes	2	Room temp	10-15 minutes	3	+ 155°C ± 2°C	30 minutes	4	Room temp	10-15 minutes	Resistance change rate is ± (2% + 0.05Ω). No evidence of mechanical damage
Step	Temperature	Time															
1	-55°C ± 3°C	30 minutes															
2	Room temp	10-15 minutes															
3	+ 155°C ± 2°C	30 minutes															
4	Room temp	10-15 minutes															
Short - time overload JIS - C - 5202 5.5	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.	Resistance change rate is ± (5% + 0.05Ω) No evidence of mechanical damage															
Load life in humidity JIS - C - 5202 7.9	Resistance change after 1000 hours operating at RCWV with duty cycle of 1.5 hours "on", 0.5 hour "off" in a humidity test chamber controlled at 40°C±2°C and 90 to 95% relative humidity.	Resistance value ▲R/R Wirewound ± 5% Power film: Less than 100KΩ ± 5% 100KΩ or more ± 10%															
Load life JIS - C - 5202 7.10	Permanent resistance change after 1,000 hours operating at RCWV, with duty cycle of 1.5 hours "on", 0.5 hour "off" at 70°C ± 2°C ambient.	Resistance value ▲R/R Wirewound ± 5% 100KΩ or more ± 5% Power film: Less than 100KΩ ± 10% 100KΩ or more															
Terminal strength JIS - C - 5202 6.1	Direct load : Resistance to a 2.5 kgs direct load for 10 seconds in the direction of the longitudinal axis of the terminal leads. Twist test : Terminal leads shall be bent through 90° at point of about 6mm from the body of the resistor and shall be rotated through 360° about the original axis of the bent terminal in alternating direction for a total of 3 rotations.	No evidence of mechanical damage															
Resistance to soldering heat JIS - C - 5202 6.4	Permanent resistance change when leads immersed to 3.2 mm to 4.8 mm from the body in 350°C ± 10°C solder for 3 ± 0.5 seconds	Resistance change rate is ± (1% + 0.05Ω). No evidence of mechanical damage															
Solderability JIS - C - 5202 6.5	The area covered with a new, smooth, clean, shiny and continuous surface free from concentrated pinholes. Test temp. of solder : 235°C ± 5°C Dwell time in solder : 3 + 0.5 / - 0 seconds	95% coverage Min.															

*Rated Continuous Working Voltage (RCWV) shall be determined from

RCWV = $\sqrt{\text{Rated Power} \times \text{Resistance Value}}$