

# Resistor

## ER3 - Cement Fixed Resistor

**ELECSOUND®**

Elecsound is a manufacturer of resistors. we offer carbon film resistors, metal film resistors, cement type resistors, Metal Oxide film resistors and SMD resistors.

Good Heat-durability, Low temperature coefficient, Low noise, High load power, High insulating capacity, Nonflammability.

Operating ambient temperature : -55°C to +275°C

Rohs Compliant

### Electrical Characteristics

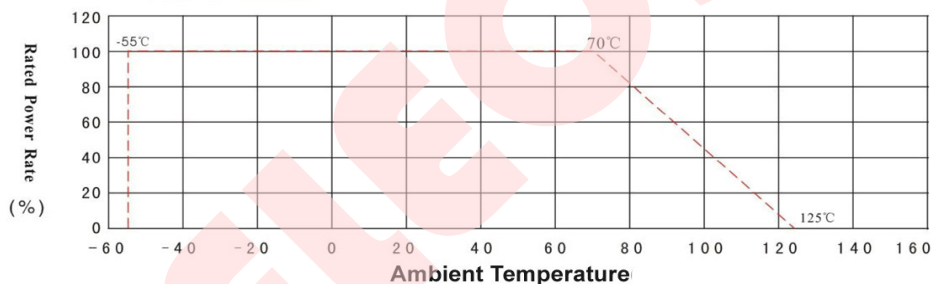
Item	Performance Requirement	Test Methods
Temperature Coefficient	$-350\text{PPM}/^{\circ}\text{C} \leq \alpha \leq +350\text{PPM}/^{\circ}\text{C}$	JIS5202-5.2
Short time Overload	$\Delta R \leq \pm(2\%R_0 + 0.1R)$	JIS5202-5.5
Resistance to Soldering Heat	$\Delta R \leq \pm(1\%R_0 + 0.05R)$	JIS5202-6.4
Solderability	The area of soldering is over 95%	JIS5202-6.5
Temperature Cycling	$\Delta R \leq \pm(5\%R_0 + 0.1R)$	JIS5202-7.1
Load Life in Humidity	$\Delta R \leq \pm(5\%R_0 + 0.1R)$	JIS5202-7.9
Load Life	$\Delta R \leq \pm(5\%R_0 + 0.1R)$	JIS5202-7.10
Non Flammability	No Visible Flame	SJ3272-4.2

### Performance Parameters

Parameters Power Rated	Max. Working Voltage	Max. Overload Voltage	Withstand Voltage	Tolerance
1W	150V	300V	500V	F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$
2W	150V	500V	1000V	
3W	350V	600V	1000V	
5W	350V	600V	1000V	
7W	500V	700V	1000V	
10W	750V	850V	1000V	
15W	1000V	1000V	1000V	
20-25W	1000V	1000V	1000V	
30W	1000V	1000V	1000V	
40W	1000V	1000V	1000V	

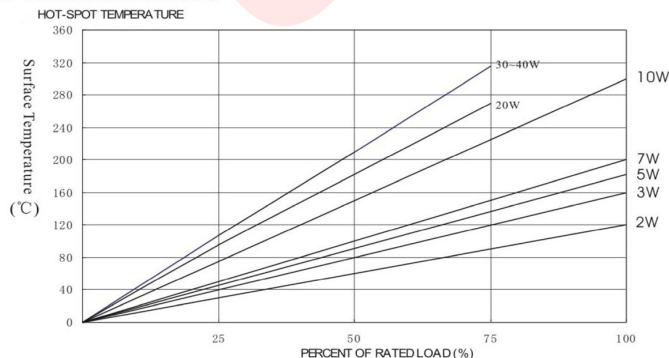
### Power Rated Derating Curve

Rated Power Derating Curve

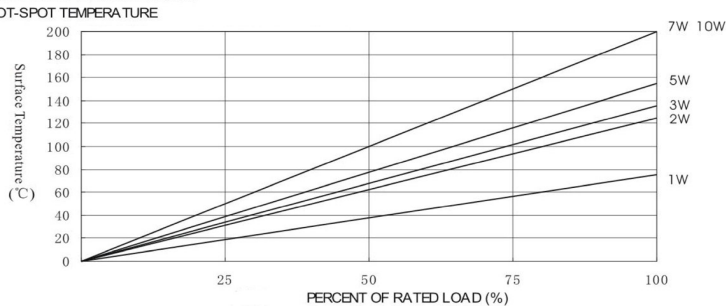


### Power Rated Derating Curve

Wire-wound Cement Resistors



Metal Oxide Cement Resistors



**Elecsound Technology Company Limited**

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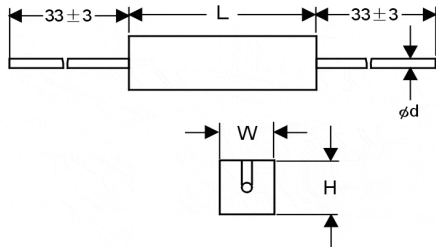
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### How To Order

ER3	SQP	5W	10R	J
MARKing	<u>Style of parts</u>	<u>Rated Power</u>	<u>Resistance</u>	<u>Tolerance</u>
	SQP	1W=1watt	0.1R	K=±10%
	SQZ	2W=2watt		J=±5%
	SQM			G=±2%
	SQK			F=±1%
SLR	40W=40watt	4.7K ohm		

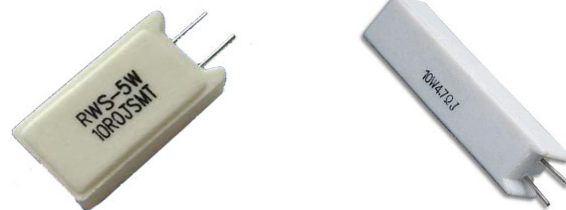
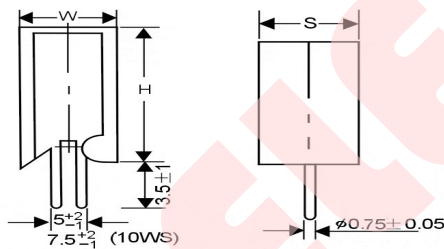
### Diameter And Size(Unit: mm) - SQP Series



Part No. SQP Type	Dimensions (mm)				Resistance Range (OHM)	
	L±1.5	W±1	H±1	d±0.05	Wire Coiling	Oxide Rod
ER3-SQP-1W	13.0	6.0	6.0	0.60	0.1 - 220	110 - 15K
ER3-SQP-2W	18.0	7.0	7.0	0.60	0.1 - 220	110 - 22K
ER3-SQP-3W	22.0	8.0	8.0	0.75	0.1 - 390	110 - 33K
ER3-SQP-5W	22.0	10.0	9.0	0.75	0.1 - 680	200 - 50K
ER3-SQP-7W	35.0	10.0	9.0	0.75	0.1 - 1500	240 - 50K
ER3-SQP-10W	48.0	10.0	9.0	0.75	0.1 - 2000	300 - 50K
ER3-SQP-15W	48.0	12.5	12.5	0.75	1.0 - 3000	300 - 150K
ER3-SQP-20W	60.0	14.5	13.5	0.75	1.0 - 3000	300 - 150K
ER3-SQP-25W	60.0	14.5	13.5	0.75	1.0 - 3200	300 - 150K
ER3-SQP-30W	75.0	19.0	19.0	1.00	1.0 - 3600	300 - 150K
ER3-SQP-40W	90.0	19.0	19.0	1.00	1.0 - 4000	300 - 150K

Note: Special Resistance and Tolerance available

### Diameter And Size(Unit: mm) - SQM Series



Part No. SQM Type	Dimensions (mm)				Resistance Range (OHM)	
	W±1	H±1	S±1	d±0.05	Wire Coiling	Oxide Rod
ER3-SQM-1W	10.0	10.0	5.0	0.60	0.1 - 220	110 - 15K
ER3-SQM-2W	11.0	20.0	7.0	0.75	0.1 - 270	110 - 22K
ER3-SQM-3W	12.0	25.0	8.0	0.75	0.1 - 680	110 - 33K
ER3-SQM-5W	13.0	25.0	9.0	0.75	0.1 - 680	200 - 50K
ER3-SQM-7W	13.0	39.0	9.0	0.75	0.1 - 1000	240 - 50K
ER3-SQM-10W	13.0	51.0	9.0	0.75	0.1 - 1800	300 - 50K
ER3-SQM-10Ws	16.0	35.0	13.0	0.75	0.1 - 1800	300 - 150K

Note: "s" means small size type, Special Resistance and Tolerance available

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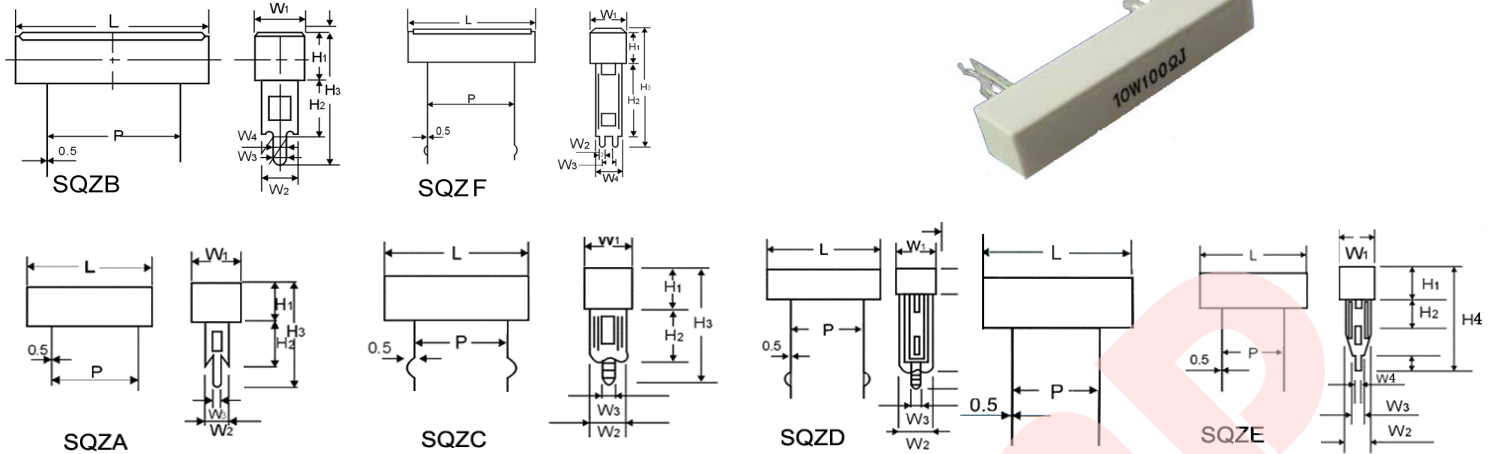
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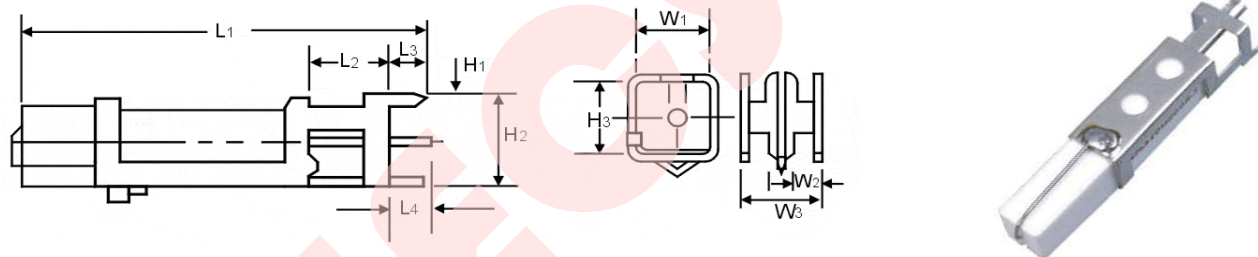
### Diameter And Size(Unit: mm) - SQZ Series



Part No. SQZ Type	Dimensions (mm)				Resistance Range (OHM)	
	L±1	P±1	W±1	H±0.05	Wire Coiling	Oxide Rod
ER3-SQZ-3W	22.0	12.0	W1,2,3=8;7.3;1.4	H1,2,3=8;10;24	0.1 - 560	220 - 22K
ER3-SQZ-5W	27.0	15.0	W1,2,3=9.5;7.3;1.4	H1,2,3=9.5;10;25.5	0.1 - 680	220 - 33K
ER3-SQZ-7W	35.0	22.5	W1,2,3=9.5;7.3;1.4	H1,2,3=9.5;10;25.5	0.1 - 680	240 - 50K
ER3-SQZ-10W	48.0	35.0	W1,2,3=9.5;7.3;1.4	H1,2,3=9.5;10;25.5	0.1 - 1000	300 - 50K
ER3-SQZ-15W	48.0	35.0	W1,2,3,4=12.5;10;2.7;3	H1,2,3=12.5;15;34.5	0.2 - 2200	200 - 33K
ER3-SQZ-20W	63.0	48.0	W1,2,3,4=12.5;10;2.7;3	H1,2,3=12.5;15;34.5	0.2 - 3000	200 - 33K

Note: Special Resistance and Tolerance available

### Diameter And Size(Unit: mm) - SQS Series



Part No. SQS Type	Dimensions (mm)			Resistance Range (OHM)	
	L±1	W±1	H±0.05	Wire Coiling	Oxide Rod
ER3-SQS-5W	L1,2,3,4=31;5;4;6	W1,2,3=10;1.5;10.5	H1,2,3=1.5;11;9.5	0.1 - 680	220 - 50K
ER3-SQS-7W	L1,2,3,4=49;10;4;6	W1,2,3=10;1.5;10.5	H1,2,3=1.5;11;9.5	0.1 - 1500	240 - 50K
ER3-SQS-10W	L1,2,3,4=62;10;4;6	W1,2,3=10;1.5;10.5	H1,2,3=1.5;11;9.5	0.51 - 2000	300 - 50K
ER3-SQS-15W	L1,2,3,4=62;10;4.5;6.5	W1,2,3=12.5;2.5;13.5	H1,2,3=2.5;14;12.5	1.0 - 300	300 - 150K
ER3-SQS-20W	L1,2,3,4=75;10;5;6.5	W1,2,3=14.5;2.7;15	H1,2,3=2.7;14.5;13	1.0 - 3000	300 - 150K

Note: Special Resistance and Tolerance available