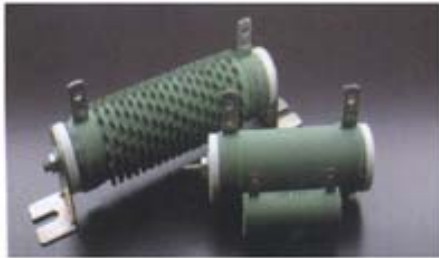


## POWER TYPE WIRE-WOUND RESISTOR

### Features

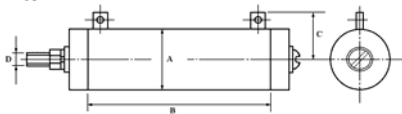
- Multi-terminal types and variable types available
- Small in size but capable of carrying high power load
- Resistance value unchanged after long use, good resistivity to short time overload
- High resistivity to heat, low temp. coefficient, and the change in resistance with temperature is linear
- Too low or too high ohmic value can be supplied on a case-to-case basis



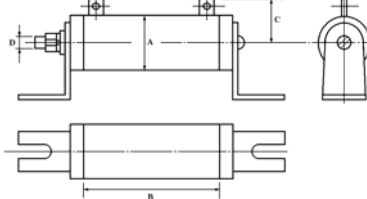
### Rating & General Specifications:

Part No.	Style	Max. Watts	Dimension (mm) (±1)				Resistance Range
			A	B	C	D	
AQ20/AL20	QH/QL-20W	20W	19	50	19	10	1Ω ~ 10KΩ
AQ25/AL25	QH/QL-25W	25W	19	60	19	10	2Ω ~ 12KΩ
AQ30/AL30	QH/QL-30W	30W	19	75	19	10	2Ω ~ 15KΩ
AQ40/AL40	QH/QL-40W	40W	19	90	19	10	2Ω ~ 20KΩ
AQ50/AL50	QH/QL-50W	50W	28	75	31	16	3Ω ~ 25KΩ
AQ60/AL60	QH/QL-60W	60W	28	90	31	16	3Ω ~ 30KΩ
AQ80/AL80	QH/QL-80W	80W	28	115	31	16	3Ω ~ 40KΩ
AQA0/ALA0	QH/QL-100W	100W	28	140	31	16	3Ω ~ 50KΩ
AQA2/ALA2	QH/QL-120W	120W	28	165	31	16	4Ω ~ 60KΩ
AQA5/ALA5	QH/QL-150W	150W	28	195	31	16	4Ω ~ 70KΩ
AQB0/ALB0	QH/QL-200W	200W	28	254	31	16	5Ω ~ 100KΩ
AQC0/ALC0	QH/QL-300W	300W	42	254	33	25	8Ω ~ 150KΩ
AQD0/ALD0	QH/QL-400W	400W	42	330	38	25	10Ω ~ 200KΩ
AQF0/ALF0	QH/QL-600W	600W	42	420	38	35	10Ω ~ 200KΩ

QH Type

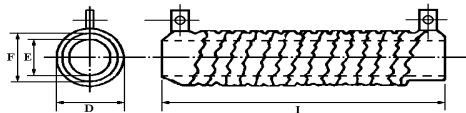


QL Type

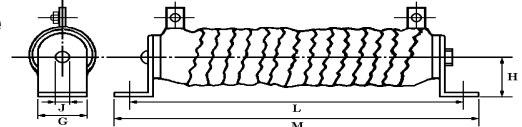


### Power Type Ribbon Wire-Wound Resistors

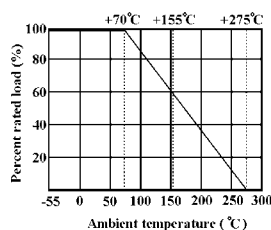
QR Type



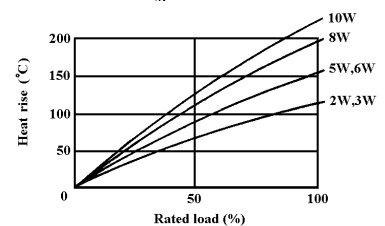
QRZG Type



Derating Curve



Heat Rise Curve



## POWER TYPE WIRE-WOUND RESISTOR

Part No.	Style	Max. Watts	Dimension (mm) (±1)									Resistance Range
			D	E	F	G	H	J	I	L	M	
ARA2	QR80	120W	33	16	28	26	22	6	115	148	167	0.2Ω ~ 4Ω
ARA5	QR100	150W	33	16	28	26	22	6	140	173	192	0.3Ω ~ 5Ω
ARA8	QR120	180W	33	16	28	26	22	6	165	198	217	0.3Ω ~ 6Ω
ARBB	QR150	225W	33	16	28	26	22	6	195	228	247	0.4Ω ~ 8Ω
ARC0	QR200	300W	33	16	28	26	22	6	254	287	306	0.5Ω ~ 10Ω
ARD5	QR300	450W	48	25	40	40	40	9	254	308	334	0.8Ω ~ 15Ω
ARF0	QR400	600W	48	25	40	40	40	9	330	384	410	1Ω ~ 20Ω

Note: Part number & ordering procedure the same as wire-wound resistors.

### 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 <sub>1</sub> : Resistance value at room temperature (t <sub>1</sub> ) R <sub>2</sub> : Resistance value at room temp. plus 100°C (t <sub>2</sub> )	± 350PPM / °C < 20Ω ± 400PPM / °C
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 ± (2% + 0.05Ω) No evidence of mechanical damage
Terminal Strength JIS - C - 5202 6.1	<b>Direct Load:</b> Resistance to a 2.5 kg. direct load for 10 seconds in the Direction of the longitudinal axis of the terminal leads. <b>Twist Test:</b> Terminal leads shall be bent through 90° at a 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 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% + 0.05 Ω) 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.
Load life in humidity JIS - C - 5202 7.9	Resistance change after 1,000 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 change rate is ± (5% + 0.05Ω) No evidence of mechanical damage
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 change rate is ± (5% + 0.05Ω) No evidence of mechanical damage