

# High Power Wirewound Type

## Threaded & 6 Mounting Holes Style [ AHB Series ]

### Aluminum Housed Resistors



### INTRODUCTION

The AHB Series Aluminum Housed Resistors have crust surface with good performance in heat radiation, suitable for cooling plate installation, can be used in the atrocious environment.

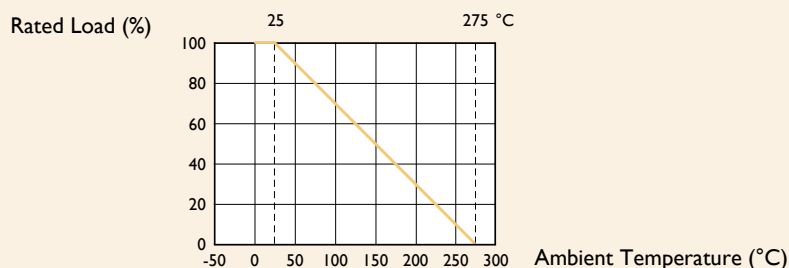
High insulating capacity, encapsulation by non-flame inorganic material, good performance in vibration.

### FEATURES

Power Rating	75W, 100W, 150W, 200W, 250W, 300W, 500W
Resistance Tolerance	±1%, ±2%, ±5%, ±10%
T.C.R.	±25ppm/°C, ±50ppm/°C, ±100ppm/°C

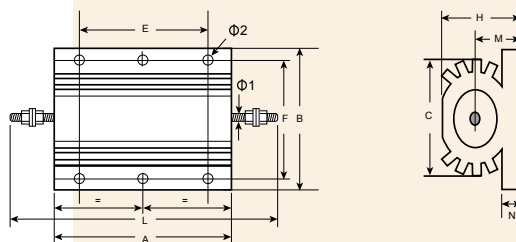
### DERATING CURVE

For resistors operated in ambient temperatures above 25°C, power rating must be derated in accordance with the curve below.



### DIMENSIONS

Unit: mm



STYLE	DIMENSION										
	A	B	L	H	C	E	F	M	N	Ø1	Ø2
AHB75A	65.5±2.0	48.0±2.0	93.5±3.0	26.0±1.0	27.0±1.5	47.0±2.0	37.0±1.5	11.5±1.5	3.5±0.5	4.0±0.5	4.4±0.5
AHB10B	98.0±2.0	48.0±2.0	126±3.0	26.0±1.0	27.0±1.5	70.0±2.0	37.0±1.5	11.5±1.5	3.5±0.5	4.0±0.5	4.4±0.5
AHB15B	130±2.0	48.0±2.0	158±3.0	26.0±1.0	27.0±1.5	104±2.0	37.0±1.5	11.5±1.5	3.5±0.5	4.0±0.5	4.4±0.5
AHB20B	92.0±2.0	73.0±2.0	132±3.0	45.0±1.0	46.5±1.5	70.0±2.0	58.0±1.5	21.0±1.5	5.0±0.5	6.0±0.5	5.5±0.5
AHB25B	112±2.0	73.0±2.0	152±3.0	45.0±1.0	46.5±1.5	90.0±2.0	58.0±1.5	21.0±1.5	5.0±0.5	6.0±0.5	5.5±0.5
AHB30B	130±2.0	73.0±2.0	170±3.0	45.0±1.0	46.5±1.5	102±2.0	58.0±1.5	21.0±1.5	5.0±0.5	6.0±0.5	5.5±0.5
AHB50B	204±2.0	73.0±2.0	244±3.0	45.0±1.0	46.5±1.5	174±2.0	58.0±1.5	21.0±1.5	5.0±0.5	6.0±0.5	5.5±0.5

Note:

## ELECTRICAL CHARACTERISTICS

STYLE	AHB75A	AHB10B	AHB15B	AHB20B	AHB25B	AHB30B	AHB50B
Power Rating on std. heatsink at 25°C	75W	100W	150W	200W	250W	300W	500W
Power Rating without heatsink at 25°C	45W	50W	55W	50W	60W	75W	200W
Maximum Working Voltage (On std. heatsink)	1400V	1900V	2500V	1900V	2200V	2500V	
Voltage Proof on Insulation	4500V						
Resistance Range	0.1Ω - 39KΩ	0.1Ω - 51KΩ	0.1Ω - 56KΩ	0.1Ω - 62KΩ	0.1Ω - 68KΩ	0.1Ω - 75KΩ	0.1Ω - 82KΩ
Operating Temp. Range	-55°C to +275°C						
Temperature Coefficient	±25ppm/°C, ±50ppm/°C, ±100ppm/°C						

Note: Special value is available on request

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	IEC 60115-1 4.13	5 times of rated power for 5 Sec.	±1.0%+0.05Ω
Voltage Proof on Insulation	IEC 60115-1 4.7	in V-block for 60 Sec., test voltage by type	By type
Temperature Coefficient	IEC 60115-1 4.8	-55°C to +275°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	>100M
Solderability	IEC 60115-1 4.17	235±5°C for 3±0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	≥40N
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±1.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24	40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	±5.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25	70±2°C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	±5.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19	-55°C ⇌ Room Temp. ⇌ +155°C ⇌ Room Temp. (5 cycles)	±1.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18	260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±1.0%+0.05Ω

Note: RCWV(Rated Continuous Working Voltage) =  $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$  or Max. working voltage listed above, whichever less.

Revision: 201304



## EXPLANATIONS OF ORDERING CODE

<b>MFR</b>	<b>-12</b>	<b>F</b>	<b>T</b>	<b>F</b>	<b>52-</b>	<b>100R</b>
Code 1 - 3 <b>Series Name</b> See Index	Code 4 - 6 <b>Power Rating</b> -05 = $\varnothing$ d0.5mm -06 = $\varnothing$ d0.6mm -07 = $\varnothing$ d0.7mm -08 = $\varnothing$ d0.8mm -10 = $\varnothing$ d1.0mm -14 = $\varnothing$ d1.4mm -12 = 1/6W -25 = 1/4W 25S = 1/4WS -50 = 1/2W 50S = 1/2WS 100 = 1W 1WS = 1WS 200 = 2W 2WS = 2WS 204 = 0.4W 207 = 0.6W 300 = 3W 3WS = 3WS 3WM = 3WM 400 = 4W 500 = 5W 5WS = 5WS 5SS = 5WSS 700 = 7W 7WS = 7WS 10A = 10W 20A = 20W 30A = 30W 40A = 40W 50A = 50W 10S = 10WS 15A = 15W 25A = 25W 10B = 100W 25B = 250W	Code 7 <b>Tolerance</b> P = $\pm 0.02$ % A = $\pm 0.05$ % B = $\pm 0.1$ % C = $\pm 0.25$ % D = $\pm 0.5$ % F = $\pm 1$ % G = $\pm 2$ % J = $\pm 5$ % K = $\pm 10$ % - = Base on Spec.	Code 8 <b>Packing Style</b> T = Tape/Box R = Tape/Reel B = Bulk	Code 9 <b>Temperature Coefficient of Resistance</b> - = Base on Spec. A = $\pm 5$ ppm/ $^{\circ}$ C B = $\pm 10$ ppm/ $^{\circ}$ C C = $\pm 15$ ppm/ $^{\circ}$ C S = $\pm 20$ ppm/ $^{\circ}$ C D = $\pm 25$ ppm/ $^{\circ}$ C E = $\pm 50$ ppm/ $^{\circ}$ C F = $\pm 100$ ppm/ $^{\circ}$ C G = $\pm 200$ ppm/ $^{\circ}$ C H = $\pm 250$ ppm/ $^{\circ}$ C I = $\pm 300$ ppm/ $^{\circ}$ C J = $\pm 350$ ppm/ $^{\circ}$ C	Code 10 - 12 <b>Forming Type</b> 26- = 26mm 52- = 52.4mm 73- = 73mm 81- = 81mm 91- = 91mm F = F Type FK = FK Type FKK = FKK Type FFK = F-form Kink M = M-Type Forming MB = M-form W/flat MT = MT Type Forming MR = MR Type AV = AVIsert PN = PANAsert	Code 13 - 17 <b>Resistance Value</b> 0R1 = 0.1 100R = 100 10K = 10,000 10M = 10,000,000

### EXCEPTION:

#### • Cement series:

<Code 8>: Special packing style code

B: Bulk with wirewound or metal oxide sub-assembly for resistance value

W: Bulk with ceramic based wirewound sub-assembly for resistance value

M: Bulk with metal oxide sub-assembly for resistance value

F: Bulk with Fiberglass based wirewound sub-assembly for resistance value

<Code 10-12>: Without forming code

Example: **SQP500JB-10R**

#### • JPW series:

<Code 13-17>: without resistance value code

Example: **JPW-06-T-52-**