

DATA SHEET

ALUMINUM HOUSED RESISTORS

High Power, Wirewound
Threaded, Chassis Mount

AHB Series

$\pm 1\%$, $\pm 2\%$, $\pm 5\%$, $\pm 10\%$

75W to 500W

RoHS compliant & Halogen Free





APPLICATIONS

- Power, pulse application
- Industry electronic
- BMS
- Large-sized machinery

FEATURES

- Reduced size
- Heatsink mounted
- Excellent surge performance
- Corrosion-resistant aluminum are corrugated for added strength and power dissipation
- RoHS compliant & halogen-free

ORDERING INFORMATION

Part number of the aluminum housed power wirewound resistor is identified by the series, power rating, tolerance, packing, temperature coefficient, type and resistance value.

PART NUMBER

<u>AHB</u>	<u>10B</u>	<u>J</u>	<u>B</u>	<u>-</u>	<u>U</u>	<u>100R</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) SERIES

AHB Series

(2) POWER RATING

75A = 75W

25B = 250W

10B = 100W

30B = 300W

15B = 150W

50B = 500W

20B = 200W

(3) TOLERANCE

F = $\pm 1\%$

J = $\pm 5\%$

G = $\pm 2\%$

K = $\pm 10\%$

(4) PACKAGING

B = Bulk

(5) TEMPERATURE COEFFICIENT OF RESISTANCE

E = $\pm 50\text{ppm}/^\circ\text{C}$

- = Based on spec.

F = $\pm 100\text{ppm}/^\circ\text{C}$

(6) TYPE

Optional code, represents specific requirement,

Example:

U = Resin glue filling

W = Silicone sealant filling

GW = Silicone sealant filling, terminal diameter in 2 mm

Null = Quartz filling, resin glue sealing

.

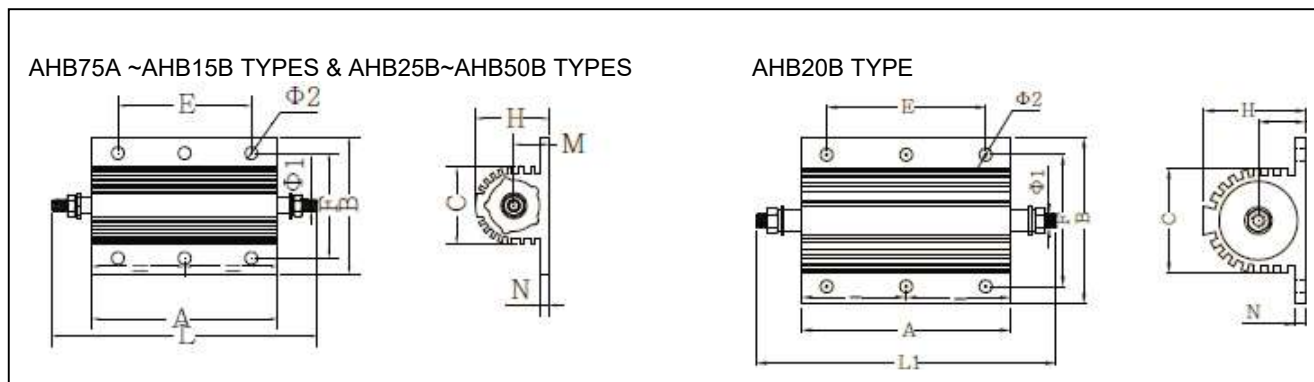
(7) RESISTANCE VALUE

E24 & E96 Series

Example:

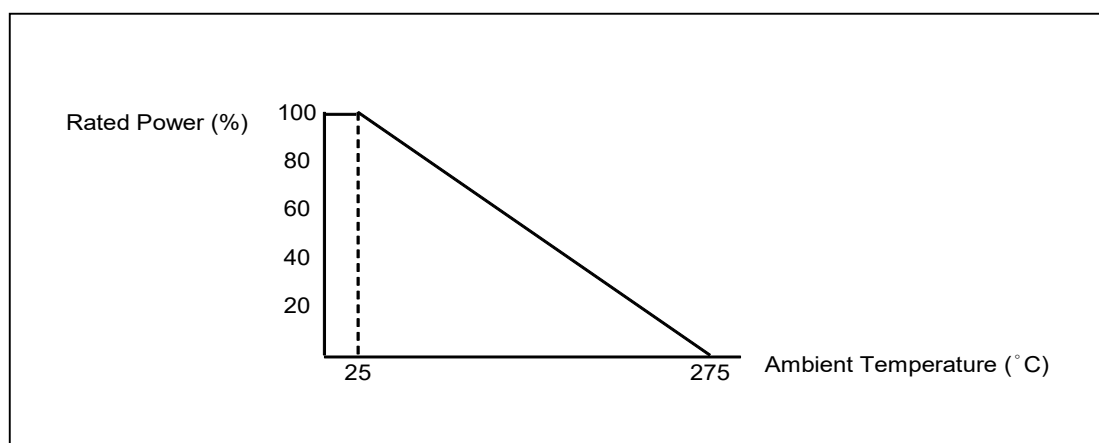
0R1 = 0.1Ω , 10R = 10Ω , 1K = $1,000\Omega$

DIMENSIONS



TYPE	DIMENSIONS										Unit: mm	
Normal	A	B	L	H	C	E	F	M	N	Ψ1	Ψ2	
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	13± 1.5	3.5±0.5	M4	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	13± 1.5	3.5±0.5	M4	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	13± 1.5	3.5±0.5	M4	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	M6	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	M6	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	M6	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	M6	5.5±0.5	

DERATING CURVE



ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	AHB75A	AHB10B	AHB15B	AHB20B	AHB25B	AHB30B	AHB50B
Power Rating on standard 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 standard heatsink)	1400V	1900V	2500V	1900V	2200V	2500V	2500V
Standard Heatsink Surface area(cm ²)	995	995	995	3750	4765	5780	8500
Standard Heatsink Thickness (mm)	3	3	3	3	3	3	3
Voltage Proof on Insulation	2000V	2000V	2000V	2500V	2500V	2500V	2500V
Voltage Proof on Insulation (Resin glue filling)	2000V	2000V	2000V	2500V	2500V	2500V	2500V
Voltage Proof on Insulation (Silicone sealant filling)	4500V	4500V	4500V	4500V	4500V	4500V	4500V
Resistance Range	0.1Ω ~ 20KΩ	0.1Ω ~ 24KΩ	0.1Ω ~ 27KΩ	0.1Ω ~ 30KΩ	0.1Ω ~ 33KΩ	0.1Ω ~ 39KΩ	0.1Ω ~ 43KΩ
Operating Temp. Range	- 55°C to +275°C						
Temperature Coefficient	±50ppm/°C , ±100ppm/°C						

Note: For resistance value out of above range is by request.

SCREW FASTENNGTORQUE STANDARD (FOR REFERENCE)

THREAD SPECIFICATION	M2	M4	M6	M8
Torque(Kgf.cm)	1.5	12	30	70
Tolerance	10%	10%	10%	10%

TEST AND REQUIREMENTS

TEST	TEST METHOD	PROCEDURE	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 as above table	No Breakdown
Temperature Coefficient	IEC 60115-1 4.8	Between -55°C to +275°C	By Type
Insulation Resistance	IEC 60115-1 4.6	In V-Block for 60 sec.	>100MΩ
Solderability	IEC 60115-1 4.17	245±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)	±2.0%+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(or Umax., whichever less) 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):

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$$V=\sqrt{(P \times R)}$$

or max. working voltage whichever is less

Where

V=Continuous rated DC or

AC (rms) working voltage (V)

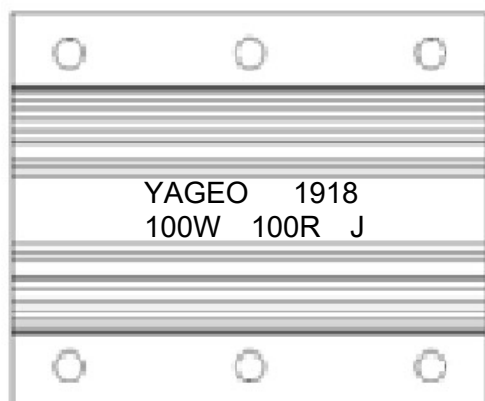
P=Rated power (W)

R=Resistance value (Ω)

BULK PACKING

Unit: Piece

Normal	PACKAGE	Quantity
AHB75A	Bulk	12
AHB10B	Bulk	9
AHB15B	Bulk	6
AHB20B	Bulk	4
AHB25B	Bulk	2
AHB30B	Bulk	2
AHB50B	Bulk	1

MARKING**Example:**

YAGEO	= Brand
1918	= Date code
100W	= Power rating
100R	= Resistance
J	= Tolerance

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 1	Aug.31, 2023	-	- Revised LEGAL DISCLAIMER
Version 0	Aug.2, 2021	-	- First issue of this specification

“ Yageo reserves all the rights for revising the content of this datasheet without further notification, as long as the products itse lf are unchanged. Any product change will be announced by PCN.”

LEGAL DISCLAIMER

YAGEO, its distributors and agents (collectively, "YAGEO"), hereby disclaims any and all liabilities for any errors, inaccuracies or incompleteness contained in any product related information, including but not limited to product specifications, datasheets, pictures and/or graphics. YAGEO may make changes, modifications and/or improvements to product related information at any time and without notice.

YAGEO makes no representation, warranty, and/or guarantee about the fitness of its products for any particular purpose or the continuing production of any of its products. To the maximum extent permitted by law, YAGEO disclaims (i) any and all liability arising out of the application or use of any YAGEO product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for a particular purpose, non -infringement and merchantability.

YAGEO products are designed for general purpose applications under normal operation and usage conditions. Please contact YAGEO for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property: Aerospace equipment (artificial satellite, rocket, etc.), Atomic energy-related equipment, Aviation equipment, Disaster prevention equipment, crime prevention equipment, Electric heating apparatus, burning equipment, Highly public information network equipment, data-processing equipment, Medical devices, Military equipment, Power generation control equipment, Safety equipment, Traffic signal equipment, Transportation equipment and Undersea equipment, or for any other application or use in which the failure of YAGEO products could result in personal injury or death, or serious property damage. Particularly **YAGEO Corporation and its affiliates do not recommend the use of commercial or automotive grade products for high reliability applications or manned space flight.**

Information provided here is intended to indicate product specifications only. YAGEO reserves all the rights for revising this content without further notification, as long as products are unchanged. Any product change will be announced by PCN.