

**PRECISION TYPE METAL CLAD RESISTORS**

RH / RHF

**Features :**

- Ideal for current sensing application.
- Small size, high power and ultra precise resistors.
- Ultra precise resistors in low resistance value are available.
- Low temperature coefficient.
- Strongly resistant to moisture, Solvent, Dielectric Strength, and Insulation.

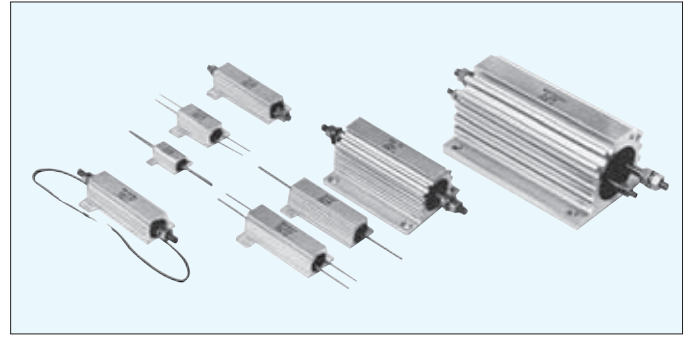
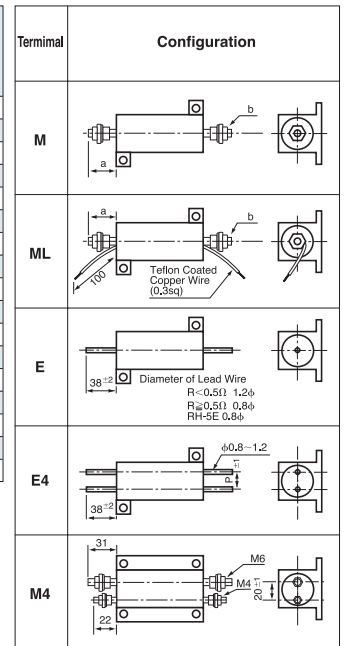


Fig. 1

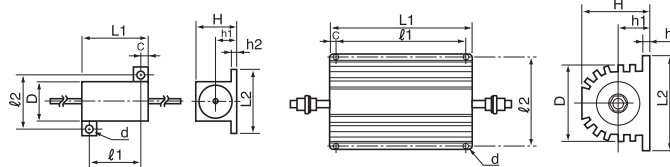
Type	Wattage Rating (W)		Terminal	Resistance Range (Ω)							Maximum Current Running (A)	Dielectric Strength (V)	MAX Working (V) 1min.
	Chassis Mounted*	Free Air		Resistance Tolerance Minimum Resistance (Ω)									
				±1% (F)	±0.5% (D)	±0.1% (B)	±0.05% (A)	±0.02% (Q)	±0.01% (T)	Maximum Resistance (Ω)			
RH-10E4	4	2	4	0.02~	0.02~	0.05~	0.1~	0.2~	20~	300K	14	AC1000	300
RH-25E4	6	3	4	0.01~	0.01~	0.03~	0.05~	0.1~	10~	600K	24	AC1000	400
RH-50E4	10	4	4	0.01~	0.01~	0.02~	0.05~	0.1~	10~	3M	25	AC2000	1300
RH-50ML	10	4	4	0.001~	0.001~	0.001~	0.02~	0.05~	5~	2M	100	AC2000	1300
RH-75ML	20	8	4	0.001~	0.001~	0.001~	0.005~	0.01~	1	150K	140	AC4500	1300
RH-100ML	30	12	4	0.001~	0.001~	0.001~	0.005~	0.01~	1	350K	170	AC4500	1400
RH-100M4	30	12	4	0.001~	0.001~	0.001~	0.005~	0.01~	—	0.5	170	AC4500	1400
RH-250ML	50	20	4	0.001~	0.001~	0.001~	0.005~	0.01~	1	600K	200	AC4500	1700
RH-250M4	50	20	4	0.001~	0.001~	0.001~	0.005~	0.01~	—	0.5	200	AC4500	1700
RH-5E	2	1	2	0.02~	0.1~	1~	2~	20~	30~	150K	10	AC500	300
RH-10E	4	2	2	0.02~	0.1~	0.3~	1~	10~	20~	300K	14	AC1000	300
RH-25E	6	3	2	0.02~	0.1~	0.5~	1~	10~	20~	600K	17	AC1000	400
RH-50E	10	4	2	0.02~	0.1~	0.5~	1~	10~	20~	3M	22	AC2000	1300
RH-50M	10	4	2	0.01~	0.05~	0.3~	0.5~	—	—	2M	31	AC2000	1300
RH-75M	20	8	2	0.01~	0.05~	0.3~	0.5~	10~	20~	150K	44	AC4500	1300
RH-100M	30	12	2	0.01~	0.05~	0.1~	0.3~	10~	20~	350K	50	AC4500	1400
RH-250M	50	20	2	0.01~	0.05~	0.1~	0.3~	40~	20~	600K	70	AC4500	1700



\*On Test Chassis Mounted

RH(F)-5~RH(F)-50

RH(F)-75~RH(F)-250

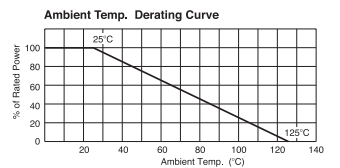


**Test Chassis Dimensions**

- RH(F)-5 · 10 152×102×51×1t
- RH(F)-25 · 50 178×127×51×1t
- RH(F)75~250 305×305×3t

Type	Dimensions (mm)											Weight (g)	
	L1±1	L2±0.8	ℓ1±0.8	ℓ2±0.8	D±1	H±0.8	d±0.3	c±0.8	h1±1	h2±0.5	a±2		b
RH-5E	15.3	16.4	11.3	12.5	8.5	8	2.3	2	4	1.6	—	—	3
RH-10E	19	20	14.3	15.9	10.8	10	2.4	2.4	5.3	2.4	—	—	5
RH-25E	27	28	18.3	19.8	13.5	14	3.2	4.4	7.1	2.4	—	—	6
RH-50E	49.2	29.2	39.7	21.4	15.1	16	3.2	4.8	8	2.5	13	M4	7
RH-75E	66	52	56	42	32	33	4.8	5	16	3.2	22	M5	—
RH-100E	88.9	71.4	69.9	57.2	46	44.5	4.8	9.5	19.5	4.8	25	M6	—
RH-250E	114.3	76.2	98.4	63.5	54	55.6	4.8	7.9	25.4	6.4	31	M6	—

Operating Temp. - 55°C ~ +125°C

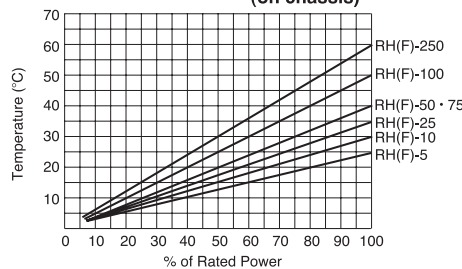


**Temp. Coefficient**

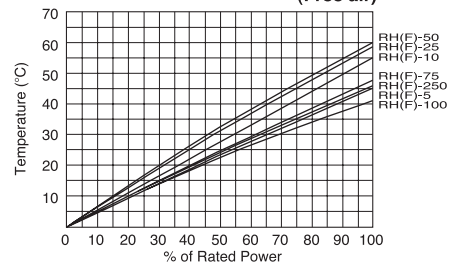
Standard Temp. : 25°C  
 Test Temp. : 0°C, 100°C

Resistance	T. C. (ppm/°C)	
	2 Terminal Type	4 Terminal Type
1Ω ≤ R	±30	±30
0.1Ω ≤ R < 1Ω	±50	±30
0.05Ω ≤ R < 0.1Ω	±50	±30
0.01Ω ≤ R < 0.05Ω	±100	±50
0.005Ω ≤ R < 0.01Ω	—	±50
0.001Ω ≤ R < 0.005Ω	—	±50

**Surface Temp. Versus Power Load. (on chassis)**



**Surface Temp. Versus Power Load. (Free air)**



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■ Performance

Parameters	Test Condition	Specification
Short Time Over Load	2×Wattage Rating 5sec	±0.1%
Heat Resistance	Normal Temp. → 150°C 2Hr	±0.1%
Dielectric Strength	FIG.1 1min	±0.02%
Insulation Resistance	DC500V	1000MΩ MIN
Moisture Resistance	+40°C, 90~95%RH, 1/10×Wattage Rating (1.5Hr ON-0.5Hr OFF) Repeat 500Hr	±0.05% Insulation R 100MΩ MIN
Vibration	10Hz~55Hz~10Hz (1min) 2Hr each of paralleled and Right angle	±0.1%
Load Life	Load Voltage Rating (Chassis mounted) 1.5Hr ON- 0.5Hr OFF (Repeat 2000Hr)	±0.2%

Internal Circuit of 4 Terminal Resistors



Notes :

- This RH/RHF series is designed for chassis mounting style and note the followings.
  - In order to mount the resistor tightly to chassis, mounting surface should be completely smooth.
  - On the mounting surface, paint flatly the well temperature-conductive material like the radiant heat grease.
  - For RH(F)50M, RH(F)75, RH(F)100 and RH(F)250, use solderless terminal for the terminal and cable connection and fasten the nut by the following torque.  
 RH(F)50M : 0.6N·m MAX, RH(F)75 : 1.18~1.57N·m, RH(F)100, RH(F)250 : 1.96~2.35N·m (M4 Terminal : 0.60~0.75N·m)

How to order

RH-50ML      1mΩ      B  
 Type                  Resistance      Tolerance

Note : As for the terminal style E, indicate the terminal length of root from the terminal joint point. (standard type terminal lengths 10mm)

Standard Resistance (Stock)

RHF50ML 1mΩB	RHF75ML 1mΩB	RHF100M4 1mΩB	RHF250M4 1mΩB
RHF50ML 5mΩD	RHF75ML 5mΩA	RHF100M4 0.01ΩQ	RHF250M4 5mΩA
RHF50ML 0.01ΩB	RHF75ML 0.01ΩQ	RHF100M4 0.1ΩQ	RHF250M4 0.01ΩQ
RHF50ML 0.05ΩQ	RHF75ML 0.05ΩQ		RHF250M4 0.05ΩQ
RHF50ML 0.1ΩQ	RHF75ML 0.1ΩQ		RHF250M4 0.1ΩQ
RHF50ML 0.5ΩQ			
RHF50ML 1ΩQ			

F : ±1%   D : ±0.5%   B : ±0.1%   A : ±0.05%   Q : ±0.02%



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