

# RH TYPE

## Superhigh Precision High Voltage Resistors



The RH type resistors are used mainly in the physical and chemical measuring instruments, X-ray apparatuses, electron microscopes, and other industrial equipment.

### ■ FEATURES

- Markedly small temperature coefficient.
- Small in size, light weight, and high reliability.
- Minimized resistance change in long-term stability and load life.
- Protected from changes in pulse voltage.
- A wide range of resistance values stably obtained.
- Fire-retarding.

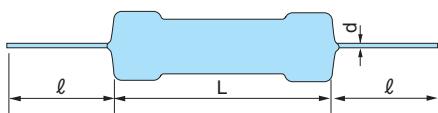
### ■ CHARACTERISTICS

Item	Characteristics	Test method
Operating temperature range	−55°C~+150°C	
Short-time overload	±0.5%	Rated voltage×2.5 applied for 5sec
Long-term stability	±0.5%	At normal temperature and humidity for 10,000hr.
Moisture load life	±0.5%	40°C, 90 to 95%RH, Rated power×1/2, 1,000hr.
Load life	±0.5%	25°C, Rated power×1/2, 3,000hr.
Resistance to soldering heat	±0.2%	380°C, 3sec.
Temperature coefficient	※1 "A" characteristic, ±10ppm/°C	The test data is based on a temperature difference of 100°C (reference temperature, 25°C measurement temperature, 125°C).
	"B" characteristic, ±25ppm/°C	
	"C" characteristic, ±50ppm/°C	
	"D" characteristic, ±100ppm/°C	
	"S" characteristic, ±200ppm/°C	

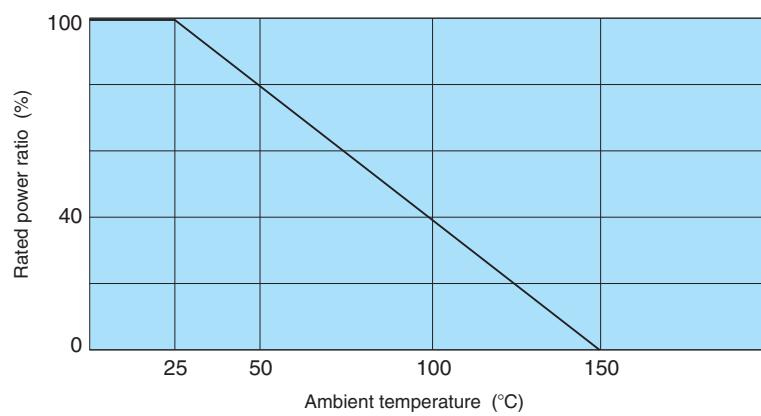
#### <CAUTION>

Rated power recommend derate less than 50% for long term use.

#### ● Shape



#### ● Derating Curve



## ■ PRODUCTION DATA

Type	Characteristics		Range of resistance values		Rated power (W)	Max. working voltage DC (kV)	Impulse voltage (kV) 1.2×50 μsec	Dimensions (mm)				Resistance tolerance (%)	
	Symbol	Temperature coefficient (ppm/°C)	Min. (MΩ)	Max. (MΩ)				L	D	ℓ	d		
			Min. (MΩ)	Max. (MΩ)									
RH <sup>1/8</sup> HV	B	±25	0.1	50	1/8	0.5	1.25	6±1	2±0.6	30±3	0.6±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.05	100									
	D	±100	0.01	100									
	S	±200	0.01	500									
RH <sup>1/4</sup> HV	B	±25	0.1	50	1/4	0.75	1.5	9±1	3±1	38±3	0.6±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	100									
	D	±100	0.01	300									
	S	±200	0.01	1000									
RH <sup>1/2</sup> HV	B	±25	0.1	50	1/2	1.5	3	13±1	4.5±1	38±3	0.8±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	100									
	D	±100	0.1	1000									
	S	±200	0.1	5000									
RH1HV	B	±25	0.1	100	1	2	4	14.5±1	4.5±1	38±3	0.8±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	500									
	D	±100	0.1	2000									
	S	±200	0.1	10000									
RH2HV	B	±25	0.1	100	2	5	10	26.5±1	5.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	500									
	D	±100	0.1	2000									
	S	±200	0.1	10000									
RH3HV	B	±25	1	500	3	10	20	42±2	5.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	500									
	D	±100	0.1	2000									
	S	±200	0.1	10000									
RH4HV	B	±25	1	500	4	15	30	52±2	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.1	500									
	D	±100	0.1	2000									
	S	±200	0.1	10000									
RH6HV	B	±25	1	500	6	20	40	77±2	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	0.5	500									
	D	±100	0.5	2000									
	S	±200	0.1	10000									
RH8HV	B	±25	1	500	8	30	50	97±2	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	1	500									
	D	±100	1	2000									
	S	±200	0.1	10000									
RH10HV	B	±25	1	500	10	35	60	117±3	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	1	500									
	D	±100	1	2000									
	S	±200	0.1	10000									
RH12HV	B	±25	1	500	12	40	70	137±3	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	C	±50	1	500									
	D	±100	1	2000									
	S	±200	0.1	10000									
RH14HV	D	±100	1	2000	14	50	80	162±3	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	S	±200	0.1	10000									
RH16HV	D	±100	1	2000	16	60	90	192±3	8.5±1	38±3	1±0.05	±0.5 (D) ≤1GΩ ±1 (F) ±2 (G) ±5 (J) ±10 (K)	
	S	±200	0.1	10000									

NOTICE: ① Resistance tolerance ±0.1%, ±0.25% resistor is producible at type RU series.

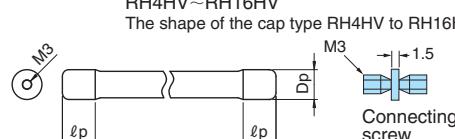
② SR type resistors (SR4HV to SR16HV) are recommended when you will use in-oil. (SR type has oil holes at both ends.)

③ SSR type resistors (SSR1/2HV to SSR14HV) are recommended for molding application with resin.

④ The size of SSR type resistors equal to each RH types.

※1 Also consult your local dealer for the availability of resistors with a temperature coefficient of "A" characteristic.

## ● Cap Type

RH4HV~RH16HV  
The shape of the cap type RH4HV to RH16HV.

## Dimensions (mm)

Type	L <sub>p</sub>	D <sub>p</sub>	ℓ <sub>p</sub>
RH4HVP	60±2	9.0±0.2	10±1
RH6HVP	85±2	9.0±0.2	10±1
RH8HVP	105±2	9.0±0.2	10±1
RH10HVP	125±2	9.0±0.2	10±1
RH12HVP	145±2	9.0±0.2	10±1
RH14HVP	170±2	9.0±0.2	10±1
RH16HVP	200±2	9.0±0.2	10±1