

It is important to select the resistor most appropriate to your application, referring to the characteristics inherent in respective types. EREMA Ceramic Resistors will comply with the requirement of high voltage or high electric power.

[1]Attention to Usage:

To obtain an optimum performance of our resistors, the following deserves full attention.

1. Overall Attention

(a) Reduction Ratio of Rated Power:

In applications where the ambient temperature exceeds 40 °C or the resistor is exposed to thermal radiation, the rated power must be reduced to be within the derating curve.

(b) Application with Impulse Voltage, Transient Voltage, Intermittent Overload or Pulse Load:

Under such conditions, we would invite you to contact us for consultation. Designing based on the stationary state or average electric power alone must be evaded.

(c) Handling:

The Resistor is made of ceramic. Attention must be paid not to inadvertently drop or hit the ceramic resistors.

2. Attention to Respective Resistors

(a) AS type:

1. For a long time use, keep the surface temperature of the resistor at 100 °C maximum. AS type has a tendency to increase resistance.
2. The resistance value of the resistor of 10kΩ or higher used at higher voltage will get lowered due to the influence of voltage coefficient. (See Fig.6)
3. The resistor of 100 Ω or lower used at higher voltage may generate sparks at the electrode. This can be evaded by altering the electrode structure. Please contact us.

(b) SP type:

1. SP type, being undurable to surge voltage, cannot be used with impulse voltage exceeding the specifications.
2. If the resistor gets cooled with water, water quality must be checked. Pure water is recommended.
3. The surface is coated with glass film to maintain the characteristics at a surface temperature as high as 300 °C or higher. However, the dielectric strength will decrease in the condition.

(c) ASW type:

ASW type is not suitable for continuous running as the surface area is relatively smaller for the weight.

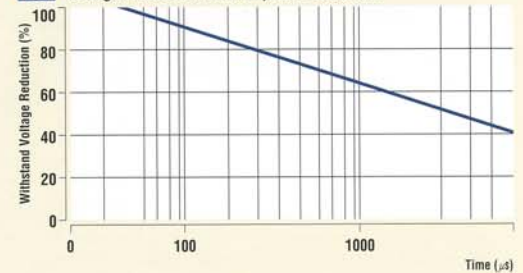
(d) BF type:

1. In use as charge or discharge resistor, reduce voltage by means of voltage reduction ratio in consideration of time constant.
2. Compared with AS, BF type has smaller injection energy capacity due to the nature of film resistor.
3. BF type is inductive due to the helical-cutting design of film resistor for higher resistance.

[2]Voltage Reduction Ratio with Impulse Waveform:

Withstand voltage will change with time constant or wave tail duration on the basis of the standard impulse voltage. Fig.1 represents the withstand voltage reduction ratio versus time when withstand voltage with $1.2 \times 50\mu$ s waveform is defined as 100 %.

Fig.1 Voltage Reduction with Impulse Waveform



[3]Power Derating with Plural Resistors Combined Together:

AS, SP or BF resistors, when used in plural, will exert the influence of radiation heat each other. The reduction ratio shown in Fig.2 is to be noted.

Fig.2 Power Derating with Resistors Combined

