

■定格電力

定格周囲温度において連続して負荷できる電力の最大値。

■定格電圧

定格周囲温度において連続して印加できる直流電圧又は交流電圧（商用周波数実効値）の最大値をいい、定格電力と公称抵抗値を用いて、次式により算出した値となります。

$$\text{定格電圧 (V)} = \sqrt{\text{定格電力 (W)} \times \text{公称抵抗値 (\Omega)}}$$

ただし、最高使用電圧を超えないものとします。

■臨界抵抗値

最高使用電圧を超えることなく定格電力を負荷できる最大の公称抵抗値。臨界抵抗値においては、定格電圧と最高使用電圧が等しくなります。

■最高使用電圧

抵抗器又は抵抗素子に連続して印加できる直流電圧又は交流電圧（商用周波数実効値）の最大値。ただし、臨界抵抗値以下では印加できる電圧の最大値は定格電圧となります。

■最高過負荷電圧

過負荷試験（JIS C 5201-1 4.13）において、5秒間印加可能な電圧の最大値。通常、過負荷試験における印加電圧は定格電圧の2.5倍です。ただし最高過負荷電圧を超えない電圧とします。

■定格周囲温度

規定の定格負荷（電力）を加えて連続使用できる抵抗器の周囲温度の最高値。

■負荷軽減曲線

周囲温度とその温度において連続して負荷できる電力の最大値の関係を示す曲線。

■抵抗温度係数

抵抗器の使用温度範囲内で、規定の温度間における1℃あたりの抵抗値の変化率をいい、次式で表されます。

$$\text{抵抗温度特性} (\times 10^{-6}/\text{K}) = \frac{R - R_0}{R_0} \times \frac{1}{T - T_0} \times 10^6$$

R : T℃における抵抗実測値(Ω)

R₀ : T₀℃における抵抗実測値(Ω)

T : 試験温度の実測値(℃)

T₀ : 基準温度の実測値(℃)

■耐パルス性

パルスやサージ等の過渡的な過負荷（単一及び繰り返し）が印加される回路の場合、定格以上の電圧・電流・電力が印加されると部品の性能劣化（断線・抵抗値変化等）や信頼性が低下する恐れがあります。実使用回路にて他部品の定数のバラツキも考慮して十分に確認下さい。耐パルス性に関するデータが必要な場合は、事前にご相談下さい。

Rated Power

The maximum value of power which can be continuously loaded to a resistor at a rated ambient temperature.

Rated Voltage

The maximum value of D.C. voltage or A.C. voltage (commercial frequency effective value) capable of being applied continuously to a resistor at the rated ambient temperature.

Rated voltage shall be calculated from the following formula.

$$\text{Rated Voltage (V)} = \sqrt{\text{Rated Power (W)} \times \text{Normal Resistance Value (\Omega)}}$$

However, it shall not exceed the maximum working voltage.

Critical Resistance Value

The maximum normal resistance value at which the rated power can be loaded without exceeding the maximum working voltage.

The rated voltage is equal to the maximum working voltage in the critical resistance value.

Maximum Working Voltage

The maximum value of D.C. voltage or A.C. voltage (commercial frequency effective value) capable of being applied continuously to a resistor or a resistor element. However, the maximum value of the applicable voltage is the rated voltage at the critical resistance value or lower.

Maximum Overload Voltage

The maximum value of voltage capable of being applied to a resistor for five seconds in the overload test (JIS C 5201-1 4.13).

Typically the applied voltage in the overload test shall be 2.5 times larger than the rated voltage. However, it shall not exceed the maximum overload voltage.

Rated Ambient Temperature

The maximum ambient temperature at which a resistor is capable of being used continuously with the prescribed rated load (power).

Derating Curve

The curve that expresses the relation between the ambient temperature and the maximum value of continuously loadable power at its temperature.

Temperature Coefficient of Resistance(T.C.R.)

The rate of change in resistance value per 1℃ in the prescribed temperature within the range of resistor operating temperature shall be expressed in the following formula:

$$\text{T.C.R.} (\times 10^{-6}/\text{K}) = \frac{R - R_0}{R_0} \times \frac{1}{T - T_0} \times 10^6$$

R : Measured Resistance (Ω) at T℃

R₀ : Measured Resistance (Ω) at T₀℃

T : Measured Test Temp. (℃)

T₀ : Measured Base Temp. (℃)

Resistance to pulse

In case of the circuits where excessive overload (single pulse, repeated pulse) like pulse or surge etc. are applied to, there are fears of the degradation of performance (disconnection, resistance change, etc.), decline of reliability if voltage/current/power over than ratings are applied. Confirm sufficiently with the actual circuit considering the dispersion of constant of other components. Consult with us in advance if you need the data of antipulse characteristics.