Application Note

- **Equipment Protection against Line Transient Damage**

  The varistors have many advantages which make it ideal for use as a suppressor on AC or DC power line.

![Fig.4 Absorption of line-line surge in single-phase system](image1)

- **Protection of Components Switching Inductive Load**

  The transistor in Fig.8 is to operate a solenoid, inductive load. The energy stored in inductor is dissipated in the reverse bias conduction of the transistor and might cause transistor breakdown. A varistor can be connected to dissipate the stored energy in the forward bias state without damaging the transistor.

![Fig.8 Solenoid circuit with varistor protection](image2)
Metal Oxide Varistor: Application Note

- **Transient Protection of Solid State Circuit**
  Modern electronic equipments and appliances contain solid state circuits, and the circuits are susceptible to be malfunctioned or damaged by transient voltage spikes.

![Fig.9 Semiconductor protection](image)

- **Extend the Life of Relay Contacts**
  When the current in inductive load is interrupted by mechanical contacts, the voltage across the contacts builds up and causes arcing which is destructive to the contacts. Varistors can be applied to prevent initiation of the arc.

![Fig.10 Contact protection](image)

- **LED Driver Surge Protection & LED ESD Protection**
  ![Fig.11 LED protection](image)

All specifications are subject to change without notice.
Metal Oxide Varistor: Application Note

- Thermally Protected Varistor Application Circuit

- IC Protection against Electro-Static Discharge (SMD Varistor Application)

- Noise Suppression (SMD Varistor Application)
USB Protection (SMD Varistor Application)

Fig. 15  
USB protection