Tyco Electronics

Our commitment. Your advantage.

Gas Discharge Tubes Help Protect Sensitive Telecom and Industrial Equipment

Telecom Equipment

Tyco Electronics' GDTs (Gas Discharge Tubes) are commonly used to help protect sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines from damage caused by transient surge voltages that typically result from lightning strikes and equipment switching operations. GDTs are placed in front of, and in parallel with, the sensitive equipment acting as a high impedance component while not influencing the signal in normal operation.

Our GDTs offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface-mount devices, which makes them suitable for applications such as MDF (Main Distribution Frame) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. The new surface-mount GDTs are available in both two-electrode and three-electrode versions. When used in coordinated circuit protection solution with PolySwitch devices, thyristor surge protection devices, and MOV (Metal Oxide Varistor) devices, they can help equipment manufacturers meet stringent safety regulatory standards.

Industrial Equipment

Industrial equipment is required to meet IEC61000-4-5, with tests at 2kV. In severe environments, required specifications are enhanced, and TVS diodes are used to help protect input/output cannot withstand additional overvoltage conditions. By adding a GDT with an inductor, such as a coordination element, it will help industrial equipment to pass tests up to 8kV. The protection level will be highly improved depending on the GDT size (5mm, 6mm or 8mm).

Applications

- **Telecommunications**
  - MDF modules, xDSL equipment, RF systems, antenna, base stations
- **Industrial and Consumer Electronics**
  - Power supplies, surge protector module, alarm systems, irrigation systems, medical equipment

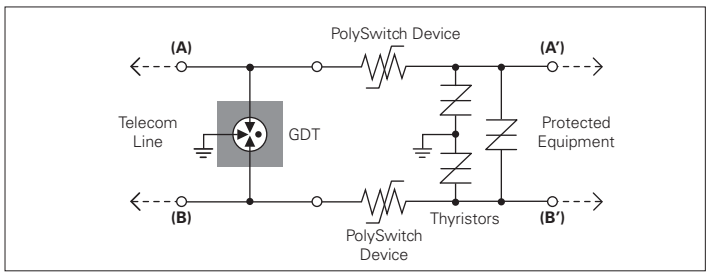
Benefits

- Helps provide overvoltage fault protection against damage caused by high energy surges
- Suitable for sensitive equipment due to impulse sparkover response
- Suitable for high-frequency applications
- Highly reliable performance
- New surface-mount devices for automated manufacturing

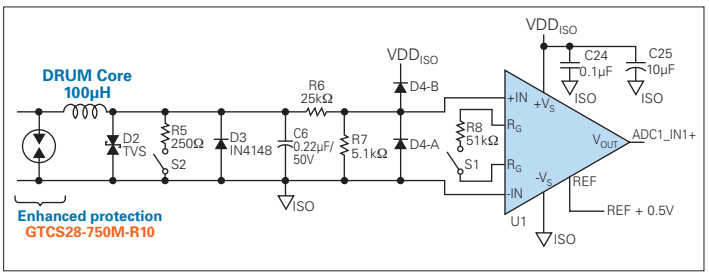
Features

- RoHS compliant, Halogen free
- Wide range of voltages (75V-600V)
- Wide range of form factors (3mm, 5mm, 6mm, 7mm, 8mm diameter devices)
- Low capacitance and insertion loss
- Crowbar device with low arc voltage
- High accuracy spark-over voltages for high precision designs
- Devices tested per ITU K.12 recommendations
- Optional fail-short mechanism

Three Electrode Devices for Grounded Circuits



Enhanced Analog Input Protection > 2kV According to IEC61000-4-5 in Industrial Environment



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