Glass Encapsulated TransGuard®





GENERAL DESCRIPTION

The Glass Encapsulated TransGuard multilayer varistors are zinc oxide (ZnO) based ceramic semiconductor devices with non-linear, bi-directional V-I characteristics.

They have the advantage of offering bi-directional overvoltage protection as well as EMI/RFI attenuation in a single SMT package.

The additional glass encapsulation is designed for specific customer requirements for enhanced acid-resistance against harsh environment or process such as acidic environment, salts or chlorite flux process.

GENERAL CHARACTERISTICS

Operating Temperature: -55°C to 125°C

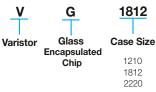
FEATURES

- Bi-Directional protection
- EMI/RFI attenuation in off-state
- Multi-strike capability
- Sub 1nS response to ESD strike
- Glass Encapsulated

APPLICATIONS

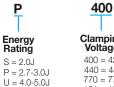
- Various Applications where Glass Encapsulation is Needed for Harsh Environment / Acid-Resistance
- Proffesional / Industrial / Commercial Applications
- IC Protection, DC motor protection
- Relays, Controllers, Sensors
- Smart Grids
- Alarms and more

HOW TO ORDER



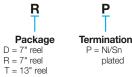


| Vo | Itage |
|------|-------|
| 16 = | 16Vdd |
| 22 = | 22Vdd |
| 38 = | 38Vdc |
| 65 = | 65Vdd |
| | |



Y = 7.2-12J





PHYSICAL DIMENSIONS: mm (inches)

| Size (EIA) | Length (L) | Width (W) | Max Thickness (T) | Land Length (t) |
|------------|---------------|---------------|-------------------|-----------------|
| 1210 | 3.20±0.20 | 2.49±0.20 | 1.70 | 0.14 max. |
| | (0.126±0.008) | (0.098±0.008) | (0.067) | (0.045 max.) |
| 1812 | 4.50±0.30 | 3.20±0.30 | 2.00 | 1.00 max. |
| | (0.177±0.012) | (0.126±0.012) | (0.079) | (0.040 max.) |
| 2220 | 5.70±0.40 | 5.00±0.40 | 2.50 | 1.00 max. |
| | (0.224±0.016) | (0.197±0.016) | (0.098) | (0.040 max.) |



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ELECTRICAL CHARACTERISTICS

| PN | V _{W DC} | V _{W AC} | V _B | Vc | I _{vc} | IL | E _T | I _P | Сар | Freq |
|--------------|-------------------|-------------------|----------------|-----|-----------------|----|----------------|----------------|-------|------|
| VG181216P400 | 16 | 11 | 24.5±10% | 42 | 5 | 10 | 2.9 | 1000 | 5000 | K |
| VG222016Y400 | 16 | 11 | 24.5±10% | 42 | 10 | 10 | 7.2 | 1500 | 13000 | K |
| VG121022R440 | 22 | 17 | 27±10% | 44 | 2.5 | 10 | 1.7 | 400 | 1600 | K |
| VG121038S770 | 38 | 30 | 47.0±10% | 77 | 2.5 | 15 | 2 | 400 | 1000 | K |
| VG181238U770 | 38 | 30 | 47.0±10% | 77 | 5 | 15 | 4.2 | 800 | 1300 | K |
| VG222038Y770 | 38 | 30 | 47.0±10% | 77 | 10 | 15 | 12 | 2000 | 4200 | K |
| VG121065P131 | 65 | 50 | 82.0±10% | 135 | 2.5 | 15 | 2.7 | 350 | 600 | K |

 V_{WDC} DC Working Voltage [V] I_L Max. leakage current at the working Voltage [V] volt. [μ A, 25 °C]

V_C Clamping Votage [V @ I_{VC}] Cap Typ. capacitance [pF] @ Freq specified

Ivc Test Current for $V_C[A, 8x20\mu s]$ and $0.5V_{RMS}, 25\,^{\circ}C$, K = 1kHz, M = 1MHz