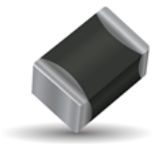
# VGAS121031R650DP

( 1210, 31Vdc, 1.7J, 300A, 1200pF, Ni/Sn Term )

## Glass Encapsulated TransGuard® Automotive Multilayer Varistors

for Automotive applications



AEC-Q200 Qualified

The Glass Encapsulated TransGuard® Automotive Series multilayer varistors provide bi-directional overvoltage protection as well as EMI/RFI attenuation in a single SMT package. Glass encapsulation extends the range into high energy applications and in addition provides enhanced resistance against harsh environment or process such as acidic environment, salts or chlorite flux.

## Electrical Characteristics

| Operating Temperature | -55 to +125°C |
|---|---|

| Case Size | $V_W$ (DC) | $V_W$ (AC) | $V_B$ | $V_C$ | $I_{VC}$ | $I_L$ | $E_T$ | $E_{LD}$ | PP | $I_P$ | Cap | Cap Tol | $V_{JUMP}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EIA | Vdc | Vac | V | V | A | µA | J | J (10x) | W | A | pF | - | V (5min) |
| 1210 | 31 | 25 | 39±10% | 65 | 2.5 | 15 | 1.7 | 4.5 | 1275 | 300 | 1200 | +100/-50% | 30 |

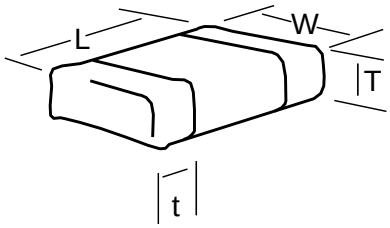
| $P_{DISS}$ |
|---|
| W |
| 0.05 |

| | | | |
|---|---|---|---|
| $V_W$(DC) | DC Working Voltage [V] | PP | Peak Power Rating [W, 10x1000µS] |
| $V_W$(AC) | AC Working Voltage [V] | $I_P$ | Peak Current Rating [A, 8x20µS] |
| $V_B$ | Typical Breakdown Votage [V @ 1mA$_{DC}$] | Cap | Typical capacitance [pF] @1kHz and 0.5VRMS |
| $V_C$ | Clamping Voltage [V @ $I_{VC}$] | Cap tol | Capacitance tolerance from typical value |
| $I_{VC}$ | Test Current for $V_C$ [A, 8x20µs] | $V_{JUMP}$ | Jump start voltage [V, 5min] |
| $I_L$ | Maximum leakage current at the working voltage [µA] | $P_{DISS}$ | Max Power Dissipation [W] |
| $E_t$ | Transient Energy Rating [J, 10x1000µS] | | |

## Dimensions

**mm (inches)**

| Size (EIA) | Length (L) | Width (W) | Thickness (T) | Terminal (t) |
|---|---|---|---|---|
| 1210 | 3.20±0.20 | 2.49±0.20 | 1.7 max | 1.14 max |
| | (0.126±0.008) | (0.098±0.008) | (0.067 max) | (0.045 max) |




## Termination

Ni barrier/100% Sn plated termination for lead free soldering.

RoHS COMPLIANT

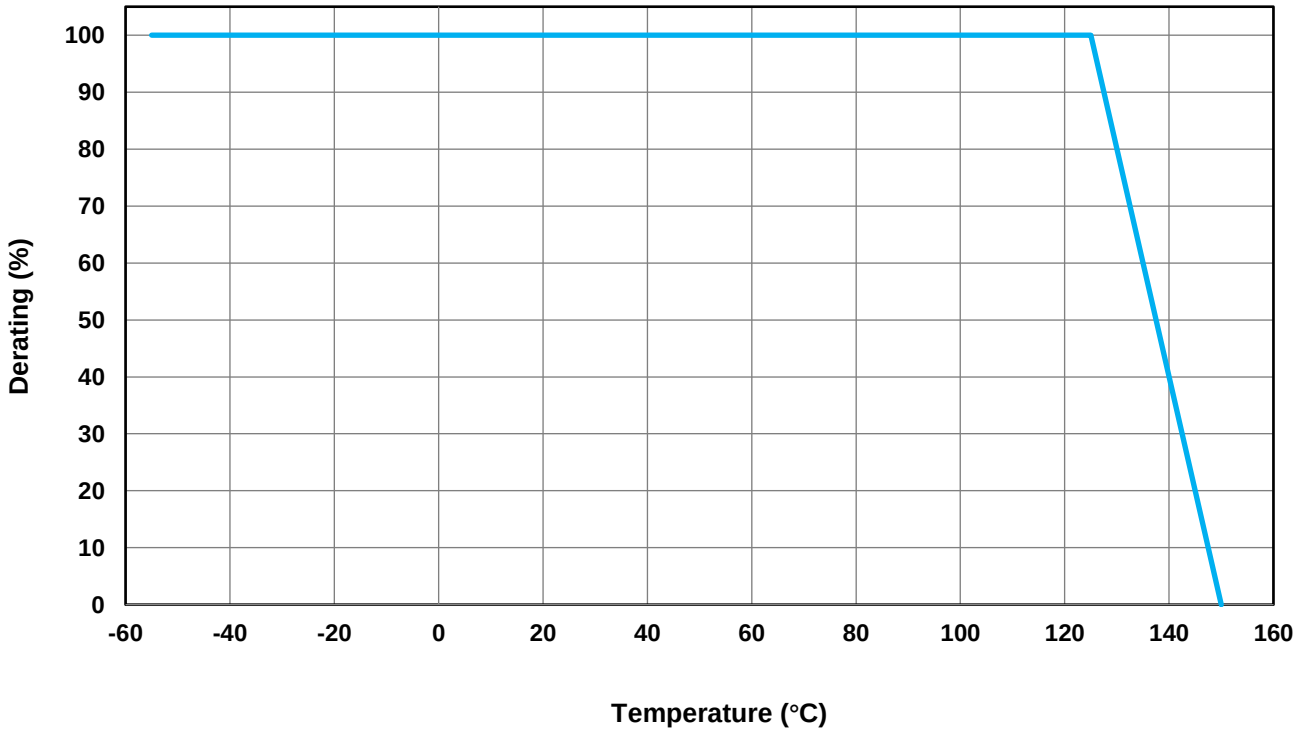
MSL 1

Pb Free 260°C

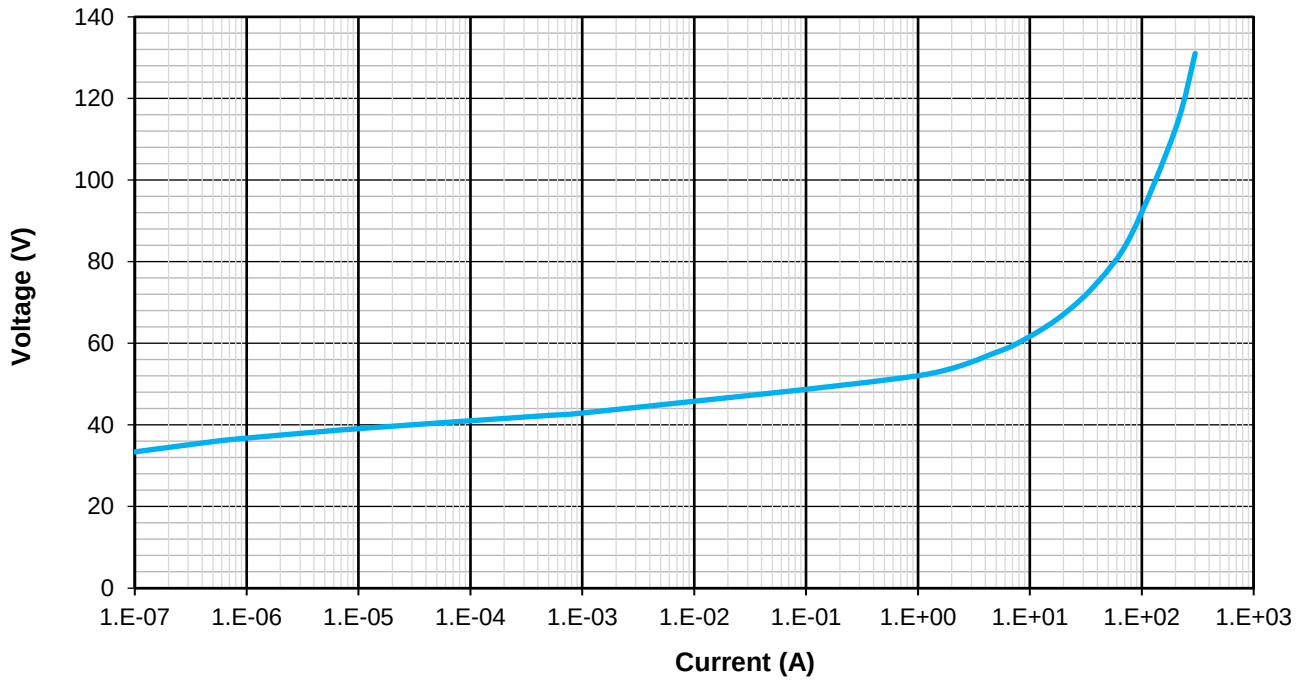
## How to order (Packaging options)

| VGAS | 1210 | 31 | R | 650 | D | P |
|---|---|---|---|---|---|---|
| Varistor Glass encaps. Automotive Series | Case Size | Working Voltage | Energy Rating | Clamping Voltage | Packaging | Termination |
| | | 31 = 31Vdc | R = 1.7J | 650 = 65V | D = 7“ reel (1,000pcs)<br>R = 7“ reel (2,000pcs)<br>T = 13“ reel (10,000pcs) | P = Ni/Sn |

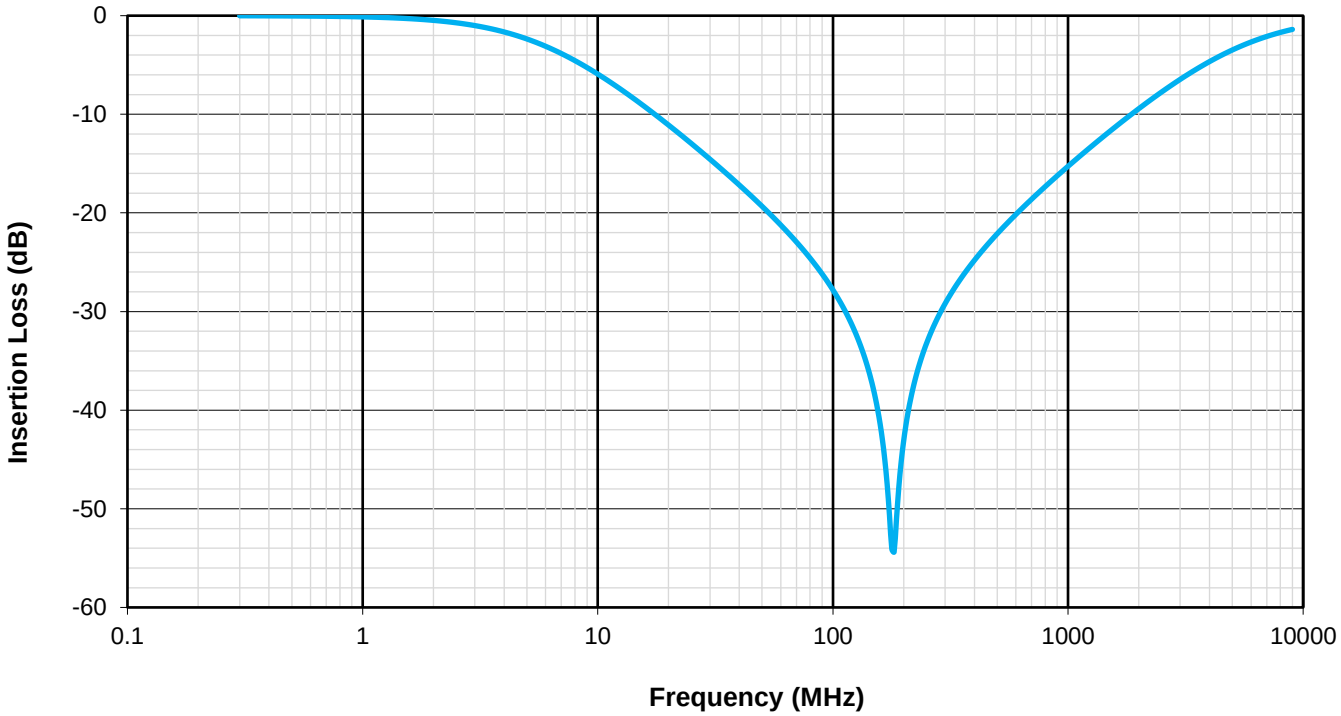
## Typical Energy Derating Curve (Transient Energy, Peak Current, Power)



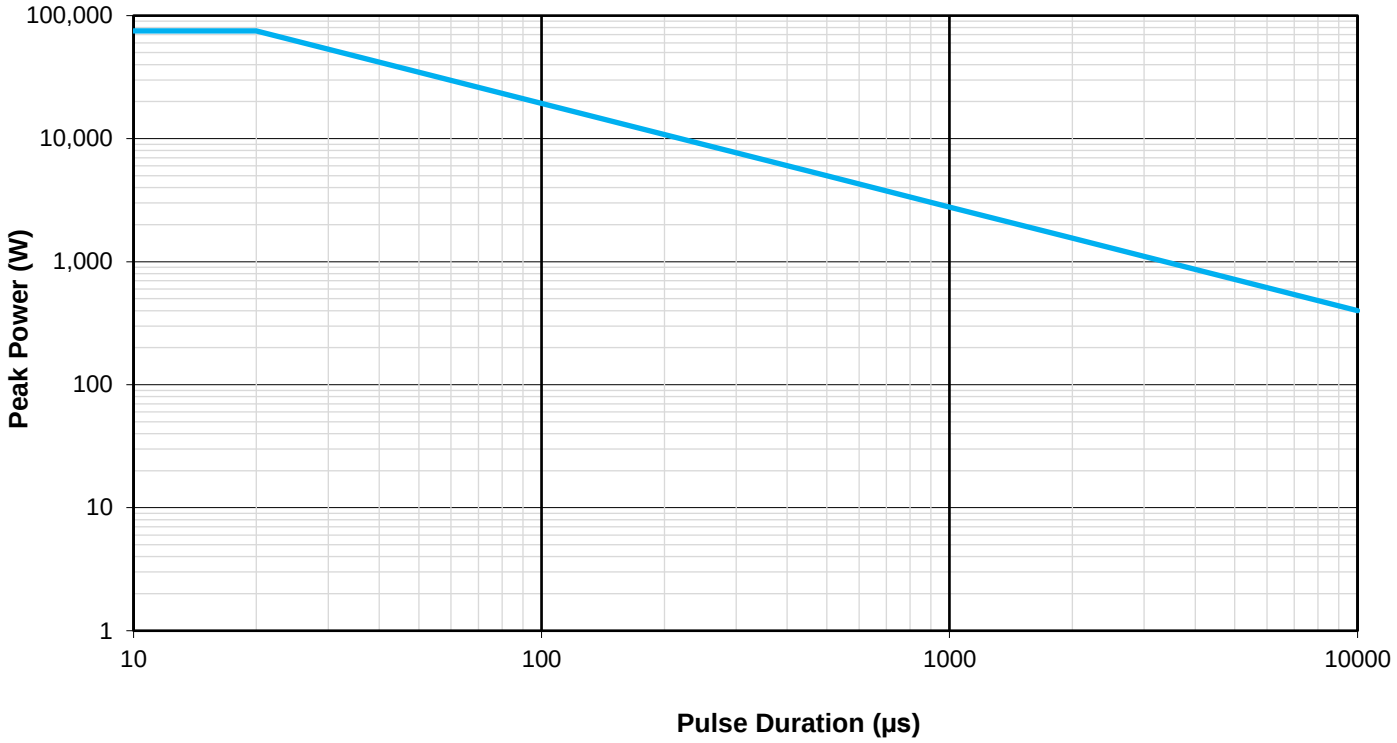
## Voltage / Current Characteristics




## S21 Characteristics



## Power Derating




NOTICE: Specifications are subject to change without notice. All statements, information and data given herein are beleived to be accurate and reliable, but are presented without guarantee or responsibility of any kind, expressed or implied. Specifications are typical and may not apply to all applications.