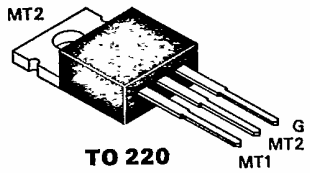
TAG SEMICONDUCTORS LTD

# T2512BH – T2512NH TRIACS

## 25.0 A 200–800 V 50/50/50/50 mA

The T2512 series of TRIAC's are high performance glass passivated PNPN devices. These parts are intended for very high current applications where moderate gate insensitivity is required.




TO 220

**Absolute Maximum Ratings** $T_A = 25\,°C$ unless otherwise noted

| Parameter | Part Nr. | Symbol | Min. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Repetitive Peak Off State Voltage | **T2512BH** | $V_{DRM}$ | 200 | | V | |
| | **T2512DH** | | 400 | | V | $T_j = -40\,°C$ to $125\,°C$ |
| | **T2512MH** | | 600 | | V | $R_{GK} = 1\,K\Omega$ |
| | **T2512NH** | | 800 | | V | |
| On-State Current | | $I_{T(RMS)}$ | 25 | | A | All Conduction Angles $T_C = 85\,°C$ |
| Nonrept. On-State Current | | $I_{TSM}$ | 275 | | A | Half Cycle, 60 Hz |
| Nonrept. On-State Current | | $I_{TSM}$ | 250 | | A | Half Cycle, 50 Hz |
| Fusing Current | | $I^2t$ | 312 | | $A^2s$ | t = 10 ms |
| Peak Gate Current | | $I_{GM}$ | 4 | | A | 10µs max. |
| Peak Gate Dissipation | | $P_{GM}$ | 10 | | W | 10µs max. |
| Gate Dissipation | | $P_{G(AV)}$ | 1 | | W | 20 ms max. |
| Operating Temperature | | $T_j$ | −40 | 125 | °C | |
| Storage Temperature | | $T_{stg}$ | −40 | 125 | °C | |
| Soldering Temperature | | $T_{sld}$ | | 250 | °C | 1.6 mm from case, 10 s max. |

**Electrical Characteristics** $T_A = 25\,°C$ unless otherwise noted

| Parameter | Symbol | Min. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|
| Off-State Leakage Current | $I_{DRM}$ | | 3 | mA | $V_D = V_{DRM}$ $R_{GK} = 1\,K\Omega$ $T_j = 125\,°C$ |
| Off-State Leakage Current | $I_{DRM}$ | | 10 | µA | $V_D = V_{DRM}$ $R_{GK} = 1\,K\Omega$ $T_j = 25\,°C$ |
| On-State Voltage | $V_T$ | | 1.4 | V | at $I_T = 37.5$ A, $T_j = 25\,°C$ |
| On-State Threshold Voltage | $V_{T(TO)}$ | | 0.85 | V | $T_j = 125\,°C$ |
| On-State Slope Resistance | $r_T$ | | 13 | mΩ | $T_j = 125\,°C$ |
| Gate Trigger Current | $I_{GT}$ I+ (1) | | 50 | mA | $V_D = 12$ V |
| | $I_{GT}$ I− (2) | | 50 | mA | $V_D = 12$ V |
| | $I_{GT}$ III− (3) | | 50 | mA | $V_D = 12$ V |
| | $I_{GT}$ III+ (4) | | 50 | mA | $V_D = 12$ V |
| Gate Trigger Voltage | $V_{GT}$ | | 2.5 | V | $V_D = 12$ V All Quadrants |
| Holding Current | $I_H$ | | 50 | mA | $R_{GK} = 1\,K\Omega$ |
| Critical Rate of Voltage Rise | dv/dt | 500 | | V/µs | $V_D = .67 \times V_{DRM}$ $R_{GK} = 1\,K\Omega$ $T_j = 125\,°C$ |
| Critical Rate of Rise, Off-State | $dv/dt_c$ | 5 | | V/µs | $I_T = 25$ A di/dt = 11 A/ms $T_C = 85\,°C$ |
| Thermal Resistance junc. to case | $R_{\Theta jc}$ | | 1.5 | K/W | |
| Thermal Resistance junc. to amb. | $R_{\Theta ja}$ | | 60 | K/W | |