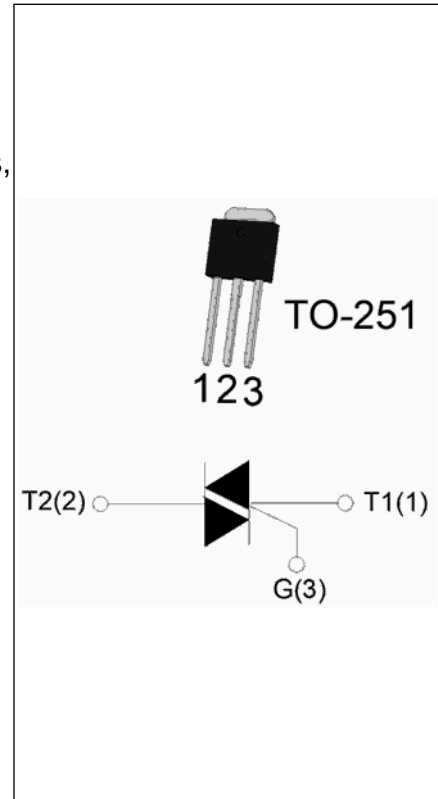


The T0410H-6H triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, T0410H-6H provides a very high switching capability up to junction temperatures of 150°C. It can be driven directly through the MCU I/O port. From T2 terminals to external heatsink. Package TO-251 is RoHS compliant.



| Symbol | Value | Unit |
|-------------------|----------|------|
| $I_{T(RMS)}$ | 4 | A |
| V_{DRM}/V_{RRM} | 600 | V |
| $I_{GT} / /$ | 10/10/10 | mA |

| Parameter | Symbol | Value | Unit |
|---|--------------|---------|------------------------|
| Storage junction temperature range | T_{stg} | -40-150 | |
| Operating junction temperature range | T_j | -40-150 | |
| Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$) | V_{DRM} | 600 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 600 | V |
| RMS on-state current ($T_c = 128^\circ\text{C}$) | $I_{T(RMS)}$ | 4 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | I_{TSM} | 40 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$) | | 44 | |
| I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$) | I^2t | 8 | A^2s |
| Critical rate of rise of on-state current ($I_G=2 I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$) | di/dt | 50 | $\text{A}/\mu\text{s}$ |
| Peak gate current ($t_p=20\mu\text{s}$, $T_j=150^\circ\text{C}$) | I_{GM} | 4 | A |
| Average gate power dissipation ($T_j=150^\circ\text{C}$) | $P_{G(AV)}$ | 1 | W |

| | | | |
|--|----------|----|----|
| Peak gate power | P_{GM} | 10 | W |
| Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.7) | V_{pp} | 3 | kV |

(T_j=25 unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|----------------------|--|----------|-------|-----|------------|
| I_{GT} | $V_D=12V R_L=33$ | - - | MAX. | 10 | mA |
| V_{GT} | | - - | MAX. | 1 | V |
| V_{GD} | $V_D=V_{DRM} T_j=150$ $R_L=3.3K$ | - - | MIN. | 0.2 | V |
| I_L | $I_G=1.2I_{GT}$ | - | MAX. | 20 | mA |
| | | | | 35 | |
| I_H | $I_T=100mA$ | | MAX. | 20 | mA |
| dV/dt | $V_D=400V$ Gate Open $T_j=150$ | | MIN. | 200 | V/ μs |
| (dI/dt) _c | (dV/dt) _c =20V/ μs , $T_j=150$ | | MIN. | 1 | A/ms |
| t_{on} | $I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$ | | TYP. | 2.5 | μs |
| t_{off} | | | | 25 | |

| Symbol | Parameter | | Value(MAX.) | Unit |
|-----------|----------------------------|-----------|-------------|---------|
| V_{TM} | $I_{TM}=5.5A t_p=380\mu s$ | $T_j=25$ | 1.4 | V |
| V_{TO} | Threshold voltage | $T_j=150$ | 0.6 | V |
| R_D | Dynamic resistance | $T_j=150$ | 129 | m |
| I_{DRM} | $V_D=V_{DRM} V_R=V_{RRM}$ | $T_j=25$ | 5 | μA |
| I_{RRM} | | $T_j=150$ | 0.8 | mA |

| Symbol | Parameter | Value | Unit |
|---------------|--------------------------|-------|------|
| $R_{th(j-c)}$ | junction to case (AC) | 4.3 | /W |
| $R_{th(j-a)}$ | junction to ambient (AC) | 120 | /W |

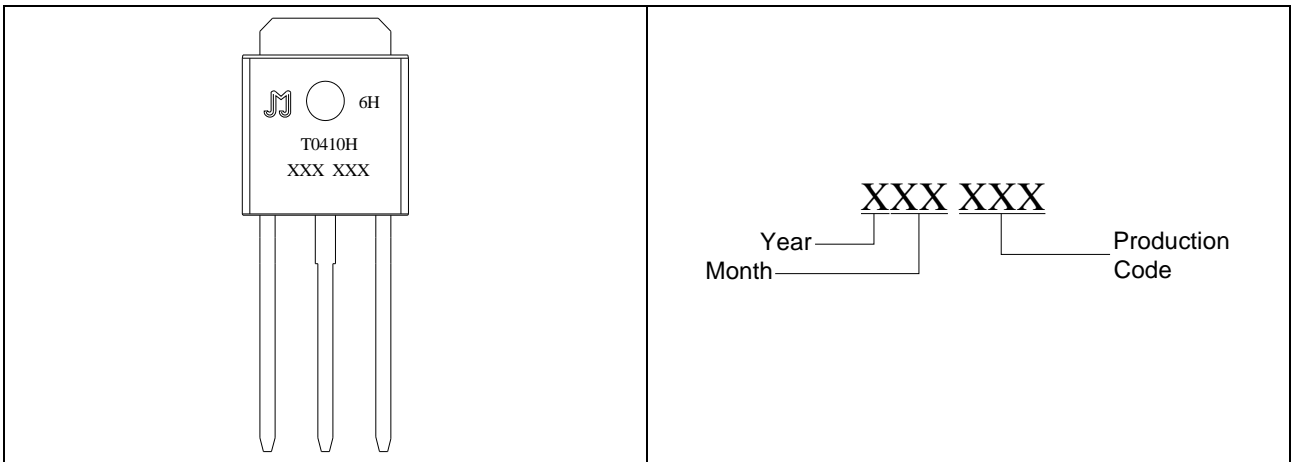
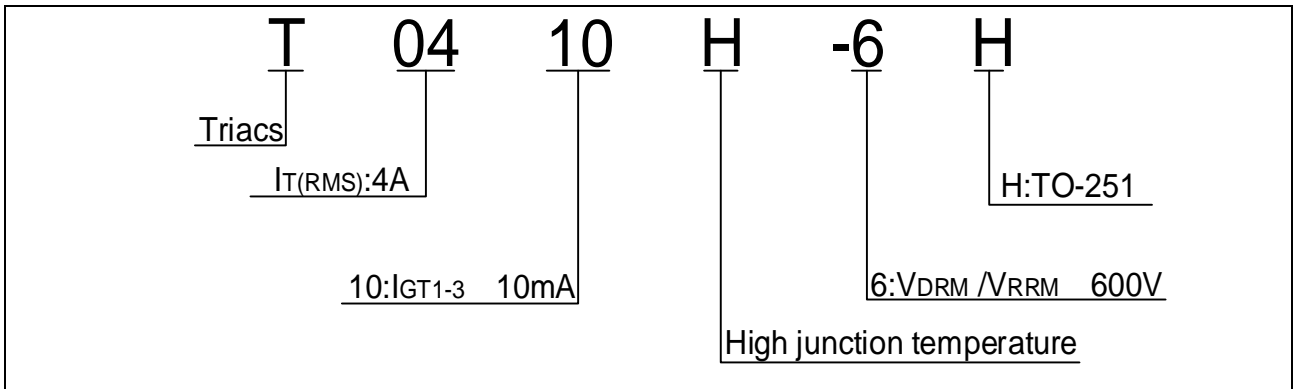


FIG.1 Maximum power dissipation versus RMS on-state current

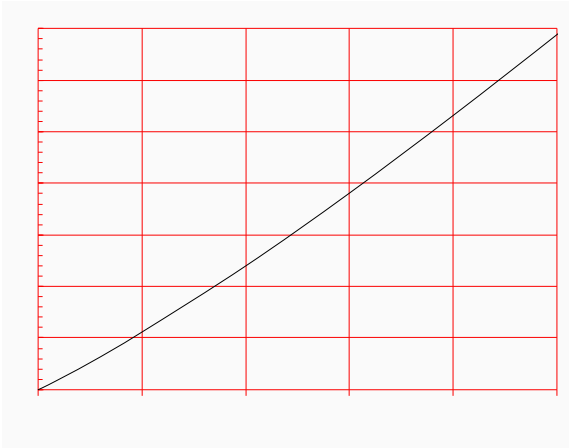
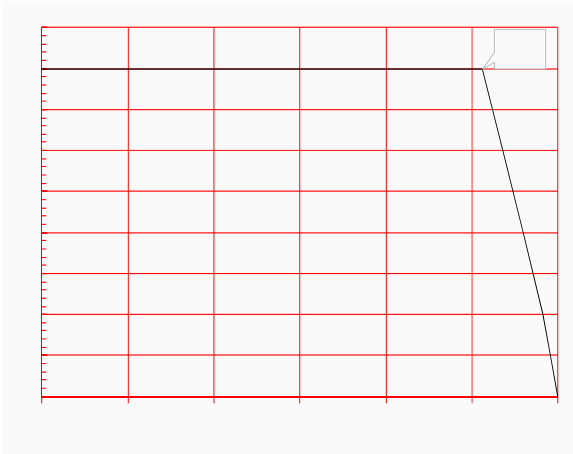


FIG.2: RMS on-state current versus case temperature

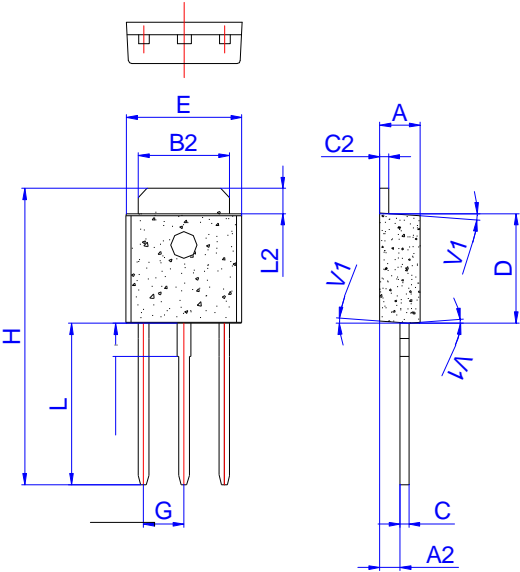


T0410H-6H

| Order code | Voltage V_{DRM}/V_{RRM} (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|------------|----------------------------------|---------|---------|--------------------|------------------|
| | | - - | | | |
| T0410H-6H | 600 | 10 | TO-251 | 80 | Tube |

Document Revision History

| Date | Revision | Changes |
|--------------|----------|--------------|
| Apr.10, 2023 | A.1.0 | Last updated |



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