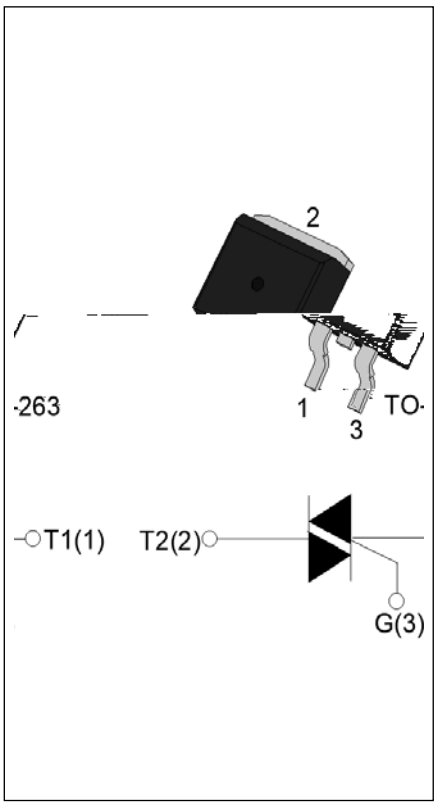
## T1610H-8E 16A TRIAC

Rev.A.1.0

## DESCRIPTION:

The T1610H-8E 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, T1610H-8E provides a very high switching capability up to junction temperatures of 150°C. It can be driven directly through the MCU I/O port. Package TO-263 is RoHS compliant.




## MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 16 | A |
| $V_{DRM}$ /$V_{RRM}$ | 800 | V |
| $I_{GT}$ / / | 10/10/10 | mA |

## ABSOLUTE MAXIMUM RATINGS

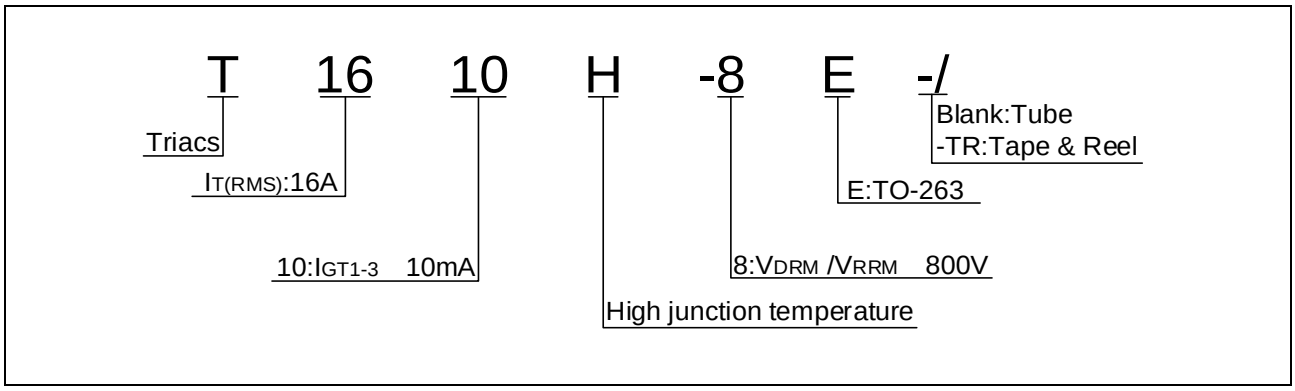
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage junction temperature range | $T_{stg}$ | -40-150 | |
| Operating junction temperature range | $T_j$ | -40-150 | |
| Repetitive peak off-state voltage ($T_j$=25 ) | $V_{DRM}$ | 800 | V |
| Repetitive peak reverse voltage ($T_j$=25 ) | $V_{RRM}$ | 800 | V |
| RMS on-state current ($T_C$ 125 ) | $I_{T(RMS)}$ | 16 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | $I_{TSM}$ | 160 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | 176 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | $I^2t$ | 128 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2 $I_{GT}$ , f=100Hz , $T_j$=150 ) | dI/dt | 100 | A/μs |
| Peak gate current ($t_p$=20μs , $T_j$=150 ) | $I_{GM}$ | 4 | A |
| Average gate power dissipation ($T_j$=150 ) | $P_{G(AV)}$ | 1 | W |

| | | | |
|---|---|---|---|
| Peak gate power | $P_{GM}$ | 10 | W |
| Peak pulse voltage ($T_j$=25 ; non-repetitive,off-state;FIG.8) | $V_{pp}$ | 4 | kV |

**ELECTRICAL CHARACTERISTICS** ($T_j$=25 unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =12V $R_L$ =33Ω | - - | MAX. | 10 | mA |
| $V_{GT}$ | | - - | MAX. | 1 | V |
| $V_{GD}$ | $V_D$ =$V_{DRM}$ $T_j$ =150 $R_L$ =3.3KΩ | - - | MIN. | 0.2 | V |
| $I_L$ | $I_G$ =1.2 | | | | |

## ORDERING INFORMATION




## MARKING

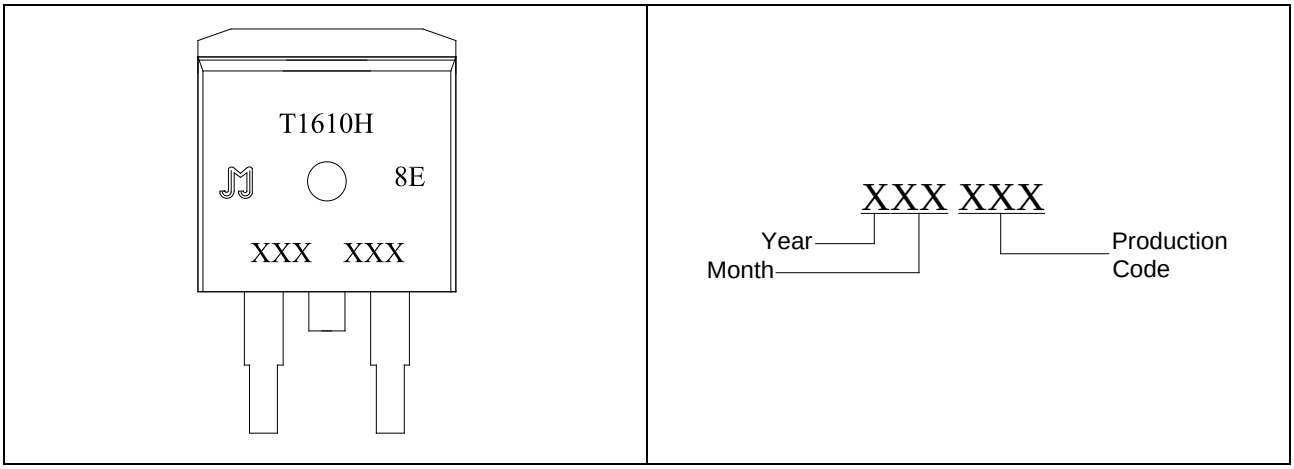


**FIG.1** Maximum power dissipation versus RMS on-state current

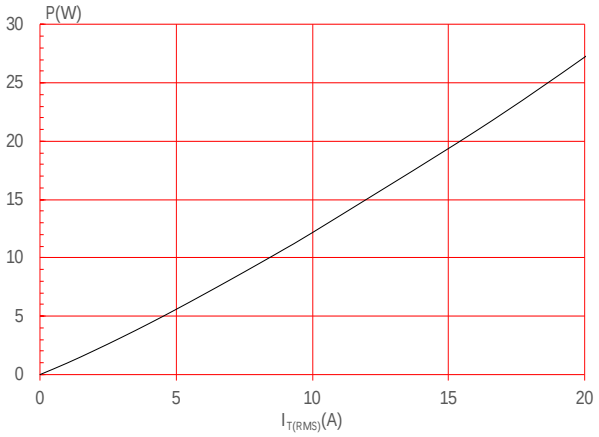



**FIG.2:** RMS on-state current versus case temperature

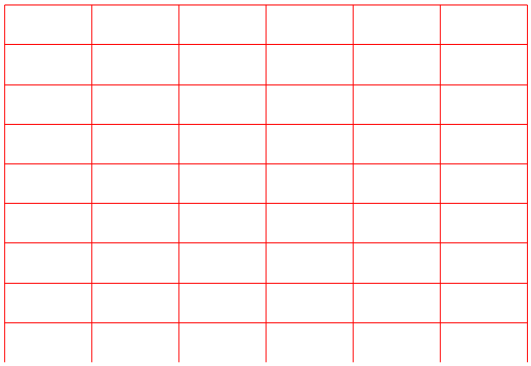


**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

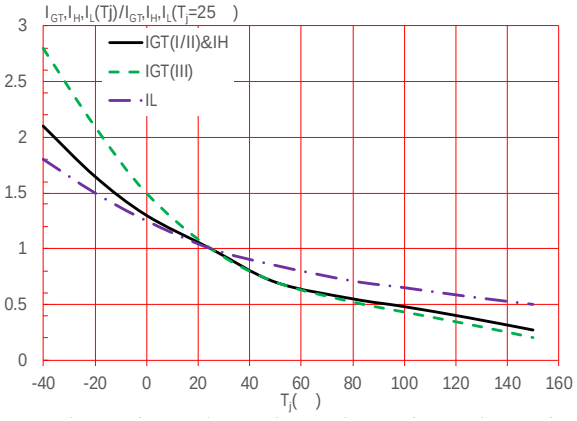
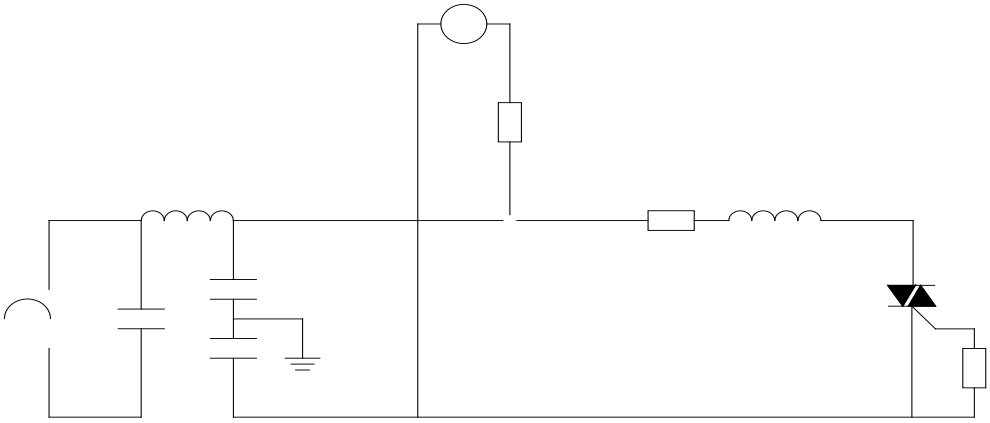


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



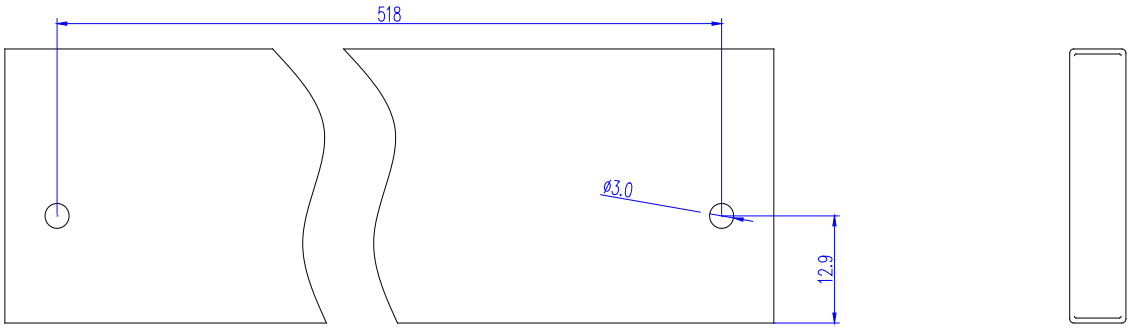
## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|
| | | - - | | | |
| T1610H-8E | 800 | 10 | TO-263 | 50 | Tube |
| T1610H-8E-TR | | | | 800 | Tape & Reel |

### Document Revision History

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

## DELIVERY MODE



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