# T1620H-8E 16A TRIAC

Rev.A.1.0

## DESCRIPTION:

The T1620H-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, T1620H-8E provides a very high switching capability up to junction temperatures of 150°C. Package TO-263 is RoHS compliant.

## MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 16 | A |
| $V_{DRM}$ /$V_{RRM}$ | 800 | V |
| $I_{GT}$ / / | 20/20/20 | 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 ($T_C$ 0125 ) | $I_{T(RMS)}$ | 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 s |
| Peak gate current ($t_p$=20 s , $T_j$=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 $R_L$ =33 | - - | MAX. | 20 | mA |
| $V_{GT}$ | | - - | MAX. | 1 | V |
| $V_{GD}$ | $V_D$ =$V_{DRM}$ $T_j$ =150 $R_L$ =3.3K | - - | MIN. | 0.2 | V |
| $I_L$ | $I_G$ =1.2$I_{GT}$ | - | MAX. | 40 | mA |
| | | | | 55 | |
| $I_H$ | $I_T$ =500mA | | MAX. | 30 | mA |
| dV/dt | $V_D$=540V Gate Open $T_j$ =150 | | MIN. | 1000 | V s |
| (dI/dt)c | G 9 G W F j=9150V 7 | | MIN. | 12 | A/ms |
| $t_{on}$ | $I_G$=40mA $I_A$=200mA $I_R$=20mA $T_j$=25 | | TYP. | 8 | s |
| $t_{off}$ | | | | 60 | |

## STATIC CHARACTERISTICS

Symbol

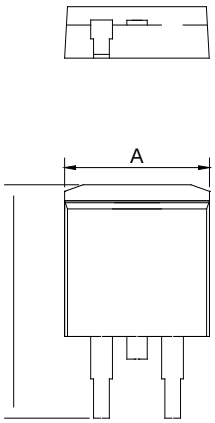
FIG.1 Maximum power dissipation versus RMS on-state current

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

GT FIG.7: Relative variations of gate trigger current,

T1620H-8E

# PACKAGE MECHANICAL DATA




| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 9.90 | | 10.20 | 0.390 | | 0.402 |
| B | 14.70 | | 15.80 | 0.579 | | 0.622 |
| C | 9.40 | | 9.60 | 0.37 | | 0.378 |
| D | 2.40 | | | 0.094 | | |
| E | 1.20 | | 1.50 | 0.047 | | 0.059 |
| F | 0.75 | | 0.85 | 0.029 | | 0.033 |
| G | | | 1.50 | | | |
| H | 4.40 | | 4.70 | 0.173 | | 0.185 |
| J | 2.30 | | 2.70 | 0.091 | | 0.106 |
| K | 0.38 | | 0.55 | 0.015 | | 0.022 |
| L | 0 | | 0.25 | | | |
| M | 1.25 | | 1.35 | | | |
| | | | | | | |

DELIVERY MODE

