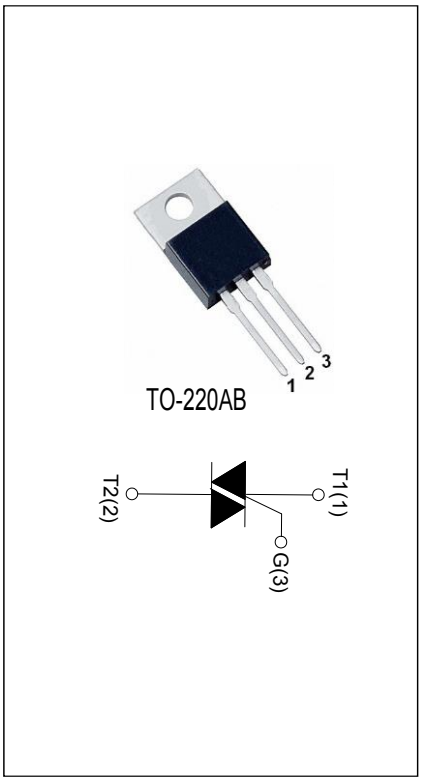
# BTA12-800B

## MAIN FEATURES 4Q TRIAC

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 12 | A |
| $V_{DRM}$ /$V_{RRM}$ | 800 | V |
| $I_{GT1/2/3}$ | 50/50/50/70 | mA |




## DESCRIPTION:

The BTA12-800B 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. By using an external plastic package.

Package TO-220AB is RoHS compliant.

## ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage junction temperature range | $T_{stg}$ | -40-150 | ℃ |
| Operating junction temperature range | $T_j$ | -40-125 | ℃ |
| 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 ($T_C$≤90℃) | $I_{T(RMS)}$ | 12 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25℃) | $I_{TSM}$ | 120 | A |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25℃) | $I^2t$ | 72 | $A^2s$ |
| Critical rate of rise of on-state current ( $T_j$=125℃) | dI/dt | 50 | A/μs |
| Peak gate current ($t_p$=20μs , $T_j$=125℃) | $I_{GM}$ | 4 | A |
| Average gate power dissipation ($T_j$=125℃) | $P_{G(AV)}$ | 10 | W |

## ELECTRICAL CHARACTERISTICS ($T_j$=25℃ unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =12V $R_L$ =100Ω | Ⅰ-Ⅱ-Ⅲ | MAX. | 50 | mA |
| | | Ⅳ | | 70 | |
| $V_{GT}$ | | ALL | MAX. | 1 | V |
| $V_{GD}$ | $V_D$ =$V_{DRM}$ $T_j$ =125℃ $R_L$ =100Ω | ALL | MIN. | 0.2 | V |
| $I_L$ | $I_G$ =1.2$I_{GT}$ | Ⅰ-Ⅲ-Ⅳ | MAX. | 60 | mA |
| | | Ⅱ | | 100 | |
| $I_H$ | $I_T$ =500mA | | MAX. | 60 | mA |
| dV/dt | $V_D$=2/3$V_{DRM}$ $T_j$ =125℃ | | MIN. | 500 | V/μs |
| (dI/dt)c | $T_j$=125℃ | | MIN. | 8 | A/ms |

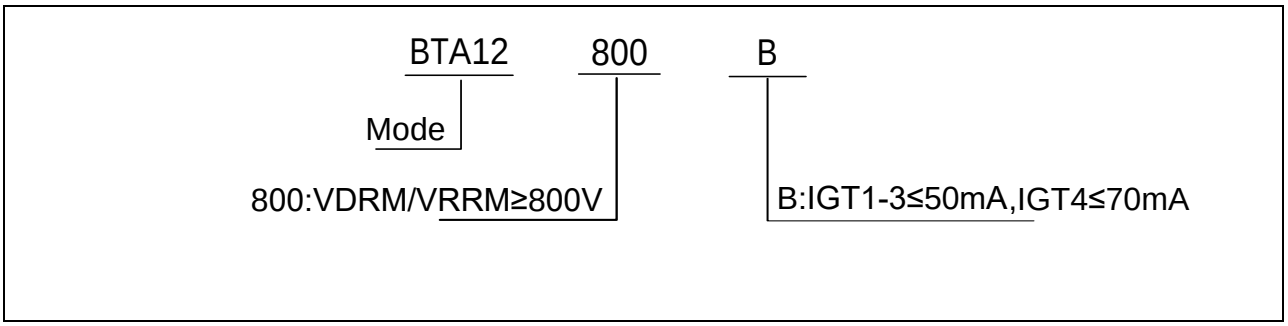
## STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX.) | Unit |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$ =32A | $T_j$=25℃ | 1.50 | V |
| $V_{TO}$ | Threshold voltage | $T_j$=125℃ | 0.86 | V |
| $R_D$ | Dynamic resistance | $T_j$=125℃ | 36.6 | mΩ |
| $I_{DRM}$ | $V_D$ =$V_{DRM}$ $V_R$ =$V_{RRM}$ | $T_j$=25℃ | 5 | μA |
| $I_{RRM}$ | | $T_j$=125℃ | 1 | mA |

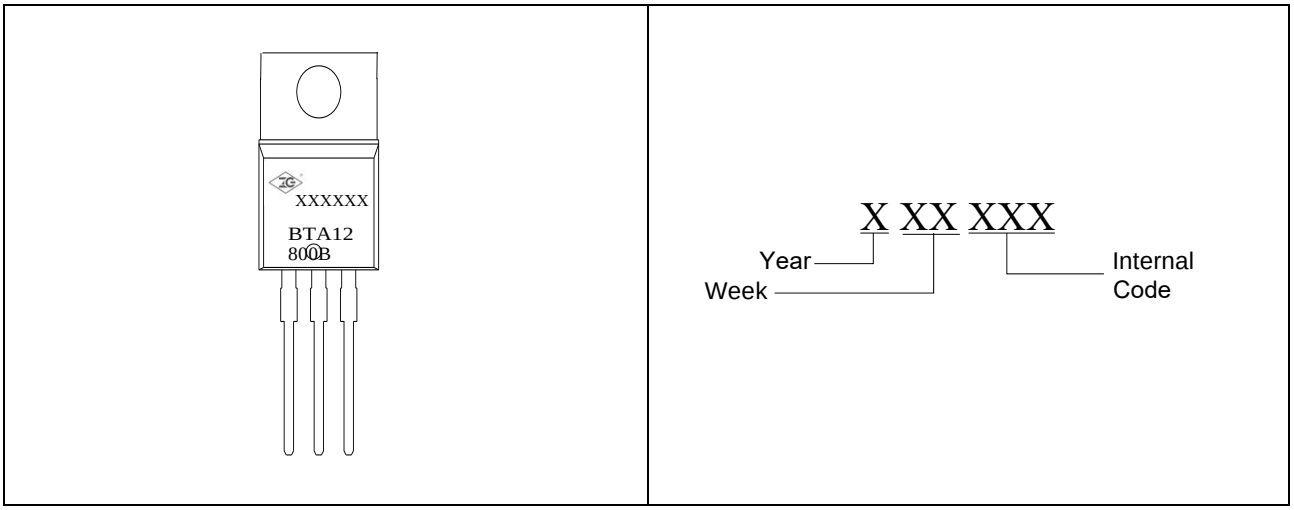
## THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $R_{th(j-c)}$ | junction to case (AC) | 2.05 | ℃/W |

## ORDERING INFORMATION



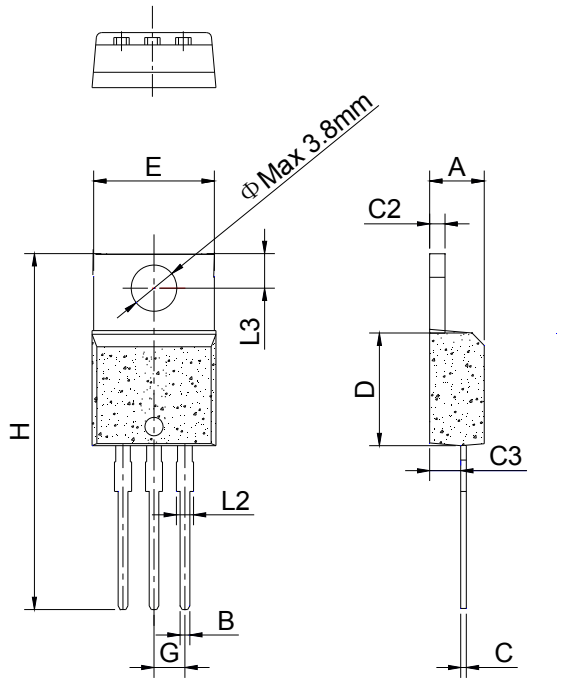

## MARKING




## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| | | Ⅰ-Ⅱ-Ⅲ | Ⅳ | | | |
| BTA12-800B | 800 | 50 | 70 | TO-220AB | 50 | Tube |

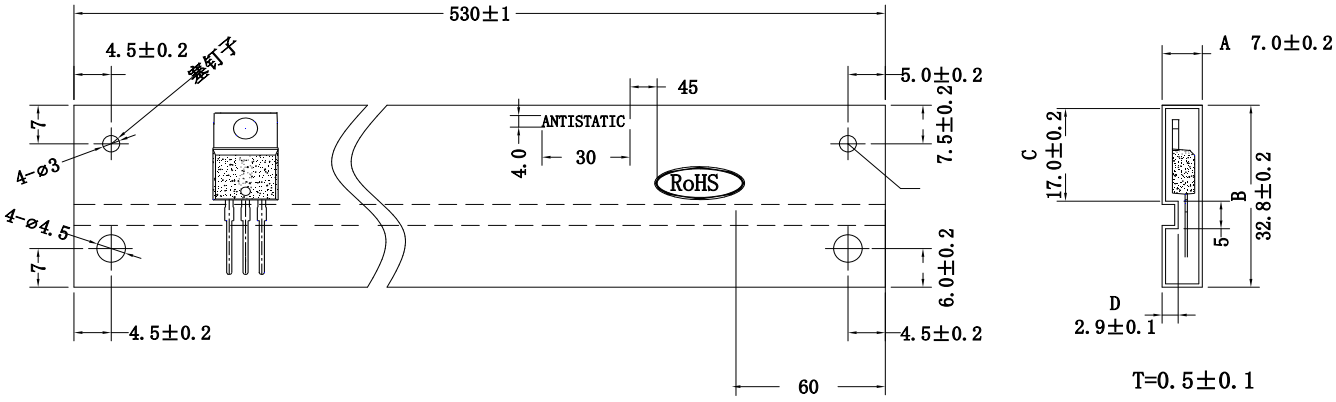
## PACKAGE MECHANICAL DATA




TO-220AB

| Ref. | Dimensions | | |
|---|---|---|---|
| | Millimeters | | |
| | Min. | Typ. | Max. |
| A | 4.30 | 4.50 | 4.70 |
| B | 0.60 | 0.80 | 1.00 |
| C | 0.28 | 0.38 | 0.48 |
| C2 | 1.17 | 1.27 | 1.37 |
| C3 | 2.30 | 2.50 | 2.70 |
| D | 8.80 | 9.00 | 9.20 |
| E | 9.80 | 10.00 | 10.20 |
| G | 2.44 | 2.54 | 2.64 |
| H | 28.55 | 28.85 | 29.15 |
| L2 | 1.10 | 1.30 | 1.50 |
| L3 | 2.59 | 2.74 | 2.89 |

## DELIVERY MODE




| PACKAGE | OUTLINE | TUBE (PCS) | INNER BOX (PCS) | PER CARTON |
|---|---|---|---|---|
| TO-220AB | TUBE | 50 | 1,000 | 5,000 |

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

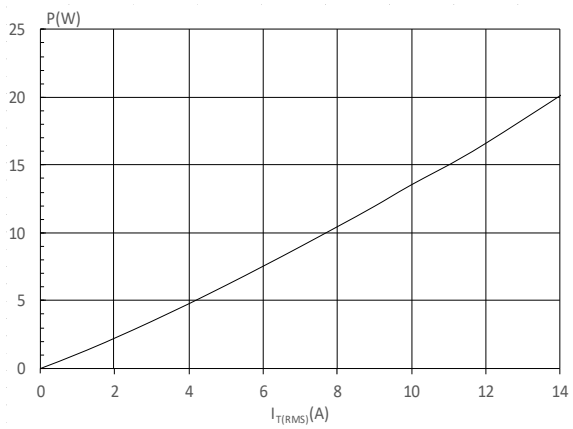



**FIG.2:** RMS on-state current versus case temperature

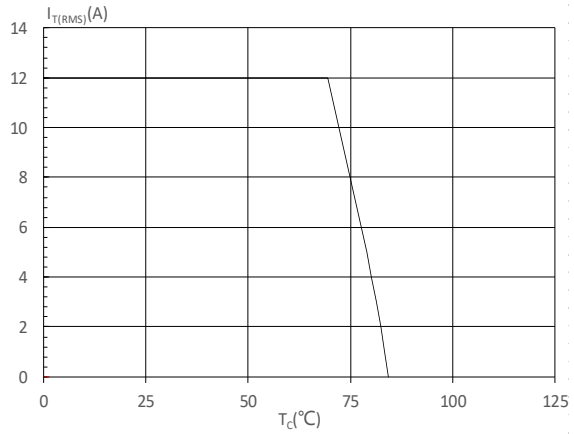



**FIG.3:** Surge peak on-state current versus number of cycles

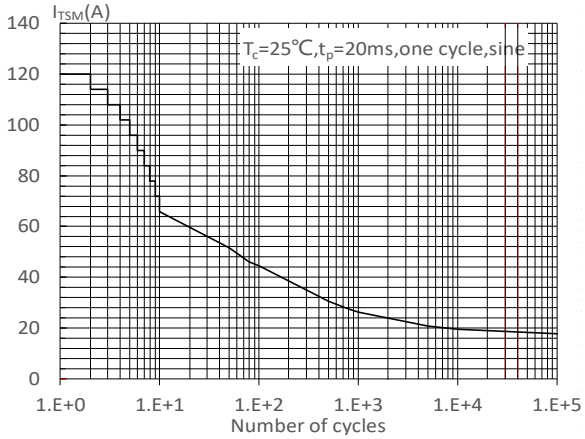



**FIG.4:** On-state characteristics

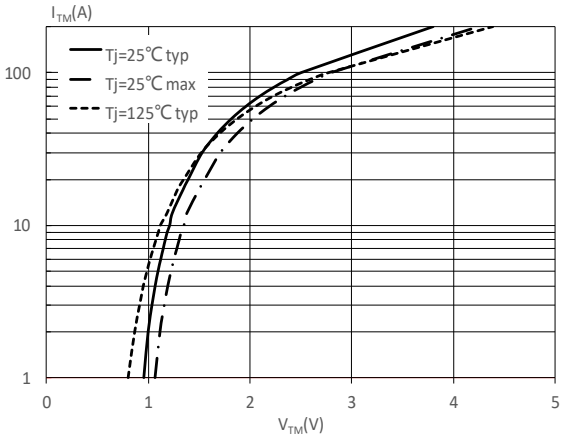



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p$<20ms, and corresponding value of $I^2t$ ( Ⅰ-Ⅱ: dI/dt<80A/μs; Ⅲ-Ⅳ: dI/dt<40A/μs)

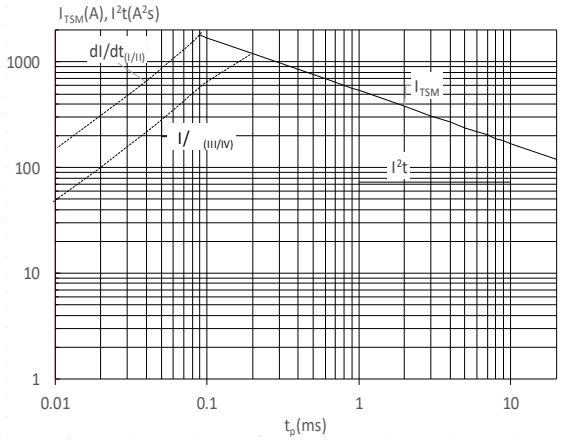
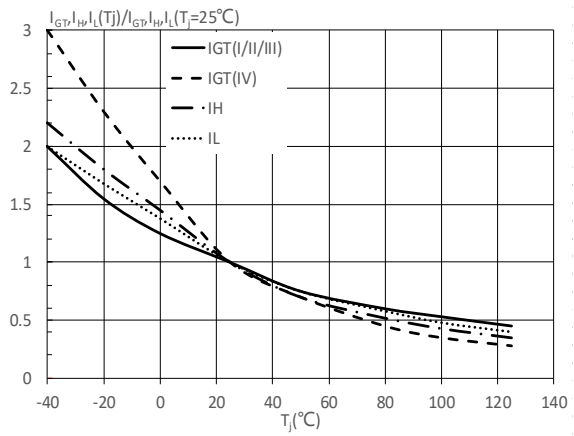



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



单击下面可查看定价，库存，交付和生命周期等信息

>>ZG(中鑫半导体)