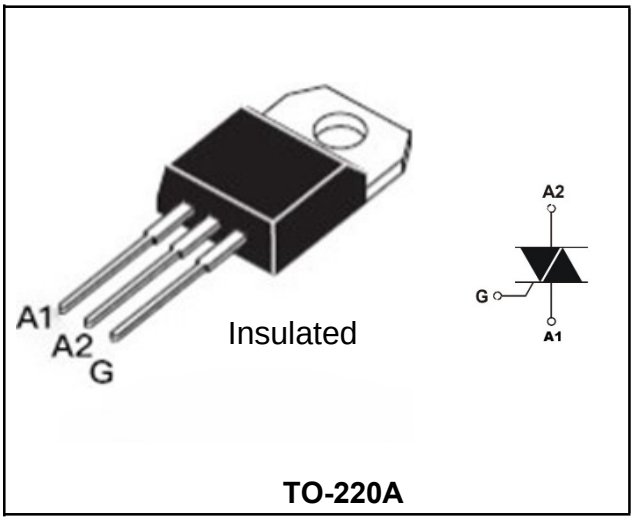
## 8A 4Quadrants TRIACs

### Product Summary

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 8 | A |
| $V_{DRM}$ $V_{RRM}$ | 600/800 | V |
| $V_{TM}$ | 1.50 | V |




### DESCRIPTION:

The BTA08 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-220A is RoHS compliant.

### Absolute maximum ratings (Ta=25°C unless otherwise noted)

| Parameter | Symbol | Value | | Unit |
|---|---|---|---|---|
| Repetitive peak off-state voltage | $V_{DRM}$ | 600/800 | | V |
| Repetitive peak reverse voltage | $V_{RRM}$ | 600/800 | | V |
| RMS on-state current | $I_{T(RMS)}$ | 8 | | A |
| Non repetitive surge peak on-state current (full cycle , tp=20ms , Tj=25℃) | $I_{TSM}$ | 80 | | A |
| $I^2t$ value for fusing (tp=10ms) | $I^2t$ | 64 | | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$ =2 x $I_{GT}$) | dI/dt | I - II -III | 50 | A/μs |
| Peak gate current | $I_{GM}$ | 4 | | A |
| Average gate power dissipation | $P_{G(AV)}$ | 1 | | W |
| Junction Temperature | $T_J$ | -40~+125 | | °C |
| Storage Temperature | $T_{STG}$ | -40 ~+150 | | °C |

## Electrical characteristics ($T_A$=25°C, unless otherwise noted)

| Parameter | Symbol | Test Condition | | Value | | | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | | Min | Typ | Max | | |
| | | | | | | C | B | |
| Gate trigger current | $I_{GT}$ | $V_D$ =12V $R_L$ =100Ω | Ⅰ-Ⅱ-Ⅲ | - | - | 25 | 50 | mA |
| | | | Ⅳ | - | - | 50 | 70 | mA |
| Gate trigger voltage | $V_{GT}$ | | ALL | - | - | 1 | | V |
| Non-triggering gate voltage | $V_{GD}$ | $V_D$=$V_{DRM}$, $R_L$ =100Ω $T_j$=125℃ | ALL | 0.2 | - | - | | V |
| Latching current | $I_L$ | $I_G$=1.2$I_{GT}$ | Ⅰ-Ⅱ-Ⅳ | - | - | 60 | | mA |
| | | | Ⅱ | - | - | 100 | | mA |
| Holding current | $I_H$ | $I_T$ =500mA | | - | - | 60 | | mA |
| Critical-rate of rise of commutation voltage | $dV_D/dt$ | $V_D$=2/3 $V_{DRM}$ $T_j$=125℃ | | 500 | - | - | | V/μs |
| **STATIC CHARACTERISTICS** | | | | | | | | |
| On-state Voltage | $V_{TM}$ | $I_{TM}$=32A | $T_j$=25℃ | - | - | 1.50 | | V |
| Repetitive Peak Off-State Current | $I_{DRM}$ | $V_D$=$V_{DRM}$ $V_R$= $V_{RRM}$ | $T_j$=25℃ | - | - | 5 | | μA |
| Repetitive Peak Reverse Current | $I_{RRM}$ | | $T_j$=125℃ | - | - | 1 | | mA |
| **THERMAL RESISTANCES** | | | | | | | | |
| Ihermal resistance | $R_{th\ (j-c)}$ | Junction to case(AC) | | TYP. | 2.05 | | | ℃/W |

## Ordering Information

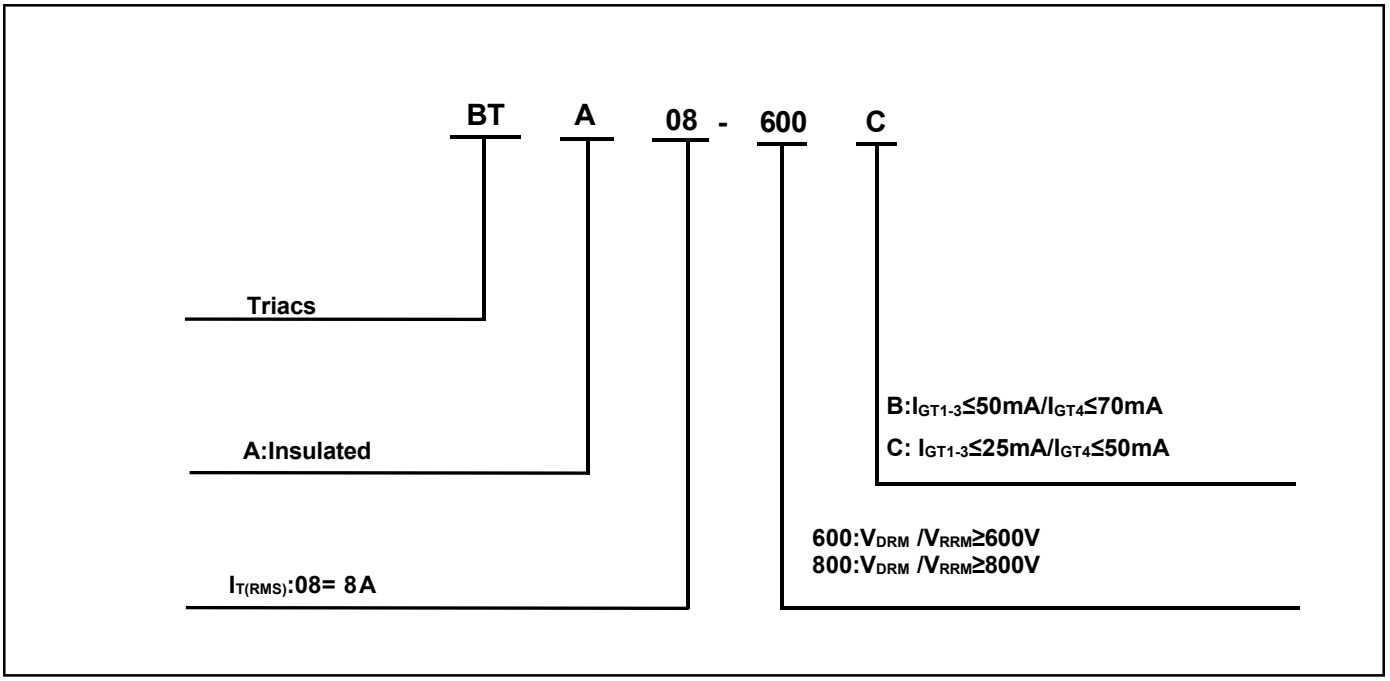


**FIG.1** Maximum power dissipation versus RMS on-state current

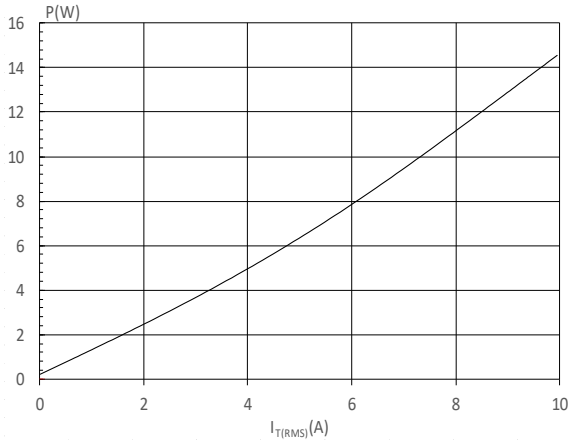



**FIG.2:** RMS on-state current versus case temperature

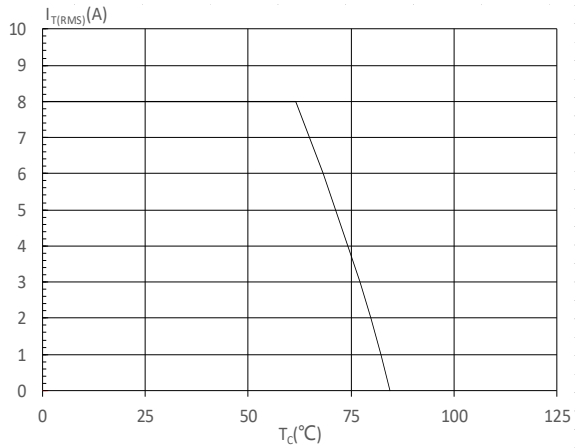



**FIG.3:** Surge peak on-state current versus number of cycles

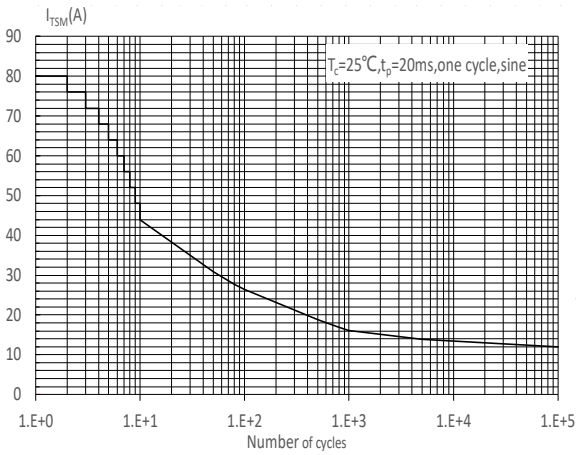



**FIG.4:** On-state characteristics

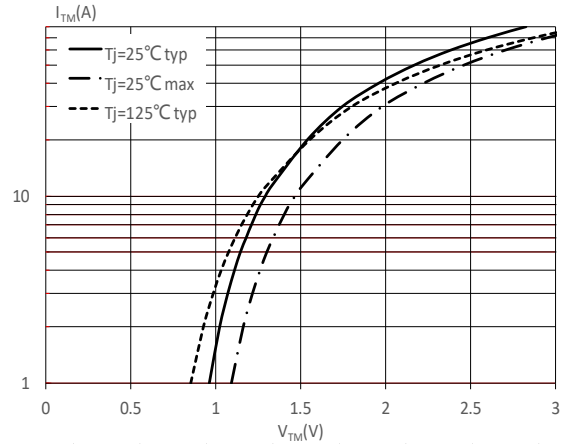



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p$<20ms, and corresponding value of $I^2t$ ( Ⅰ-Ⅱ: dI/dt<80A/μs; Ⅲ-Ⅳ: dI/dt<40A/μs)

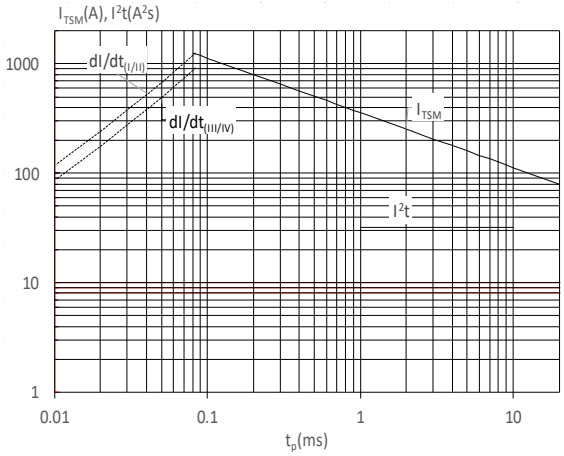
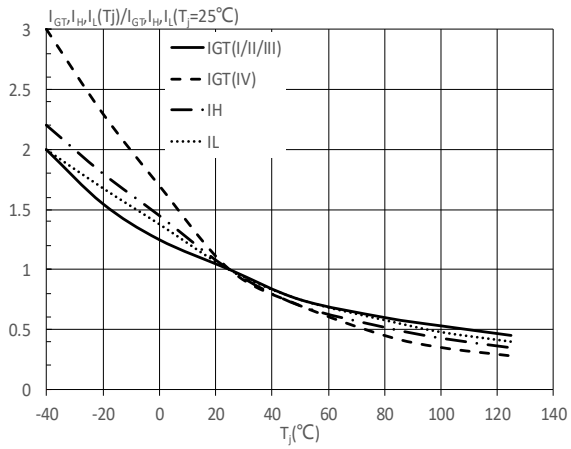
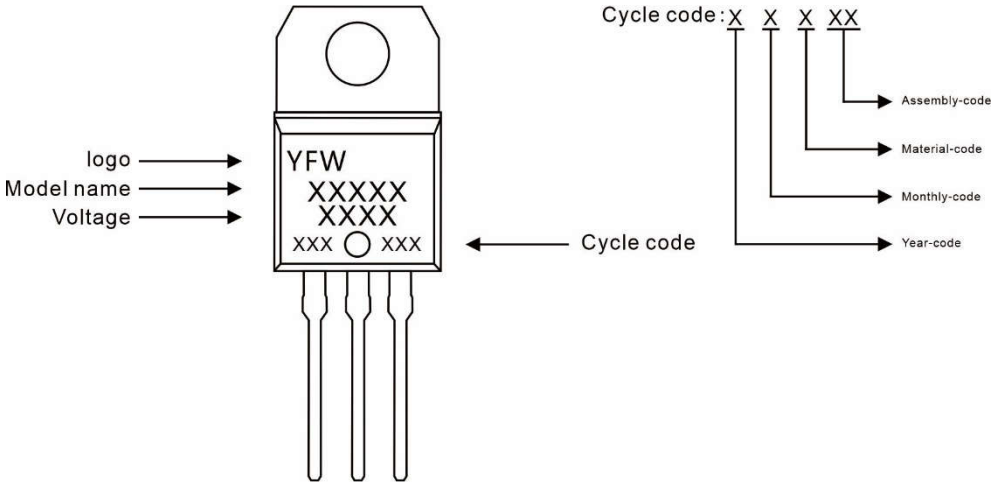



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



## Marking Diagram



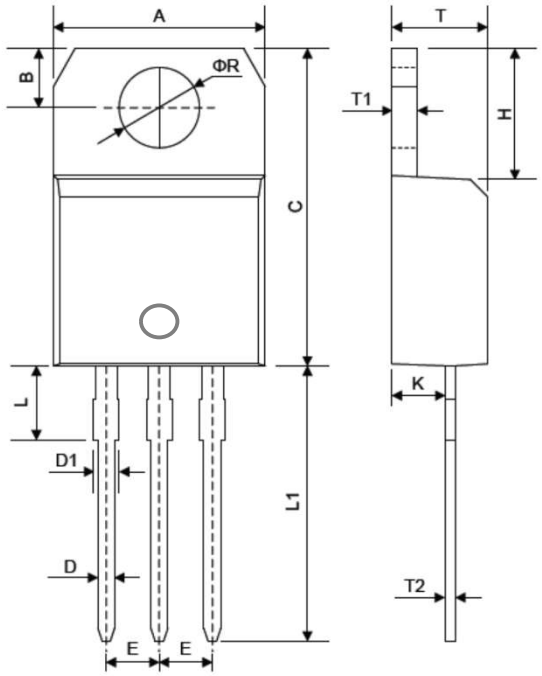

## Ordering information

| Model name | Package | Unit Weight | Base Quantity | Packing Quantity |
|---|---|---|---|---|
| **BTA08** | TO-220A | 0.07oz(1.96g) | 50pcs/tube | 1000PCS/Box 5000PCS/Carton |

## Package Dimensions

**TO-220A(Insulated)**

**(Insulated)**




| Symbol | Millimeter | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 9.80 | 10.40 | 0.386 | 0.409 |
| B | 2.65 | 3.10 | 0.104 | 0.122 |
| C | 14.80 | 16.10 | 0.583 | 0.634 |
| D | 0.70 | 0.92 | 0.028 | 0.036 |
| D1 | 1.18 | 1.42 | 0.047 | 0.056 |
| E | 2.40 | 2.70 | 0.095 | 0.106 |
| L | 2.80 | 4.20 | 0.11 | 0.17 |
| L1 | 13.05 | 13.60 | 0.514 | 0.535 |
| H | 5.85 | 6.82 | 0.23 | 0.27 |
| K | 2.35 | 2.75 | 0.093 | 0.108 |
| T | 4.38 | 4.61 | 0.172 | 0.181 |
| T1 | 1.15 | 1.36 | 0.045 | 0.054 |
| T2 | 0.35 | 0.65 | 0.014 | 0.026 |
| ΦR | 3.75 | 3.95 | 0.148 | 0.156 |

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