

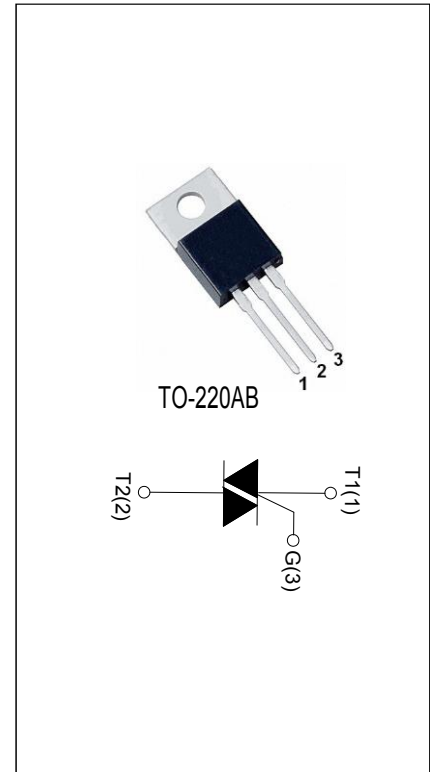
BTB06-800CW-AB
MAIN FEATURES 3Q TRIAC

| Symbol | Value | Unit |
|-------------------|----------|------|
| $I_{T(RMS)}$ | 6 | A |
| V_{DRM}/V_{RRM} | 800 | V |
| $I_{GT1/2/3}$ | 35/35/35 | mA |

DESCRIPTION:

The BTB06-800CW-AB 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. BTB06-800CW snubberless triac is especially recommended for use on inductive loads. From T2 terminals to external heatsink.

Package TO-220AB is RoHS compliant.


ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Value | Unit |
|---|--------------|---------|------------------------|
| Storage junction temperature range | T_{stg} | -40-150 | °C |
| Operating junction temperature range | T_j | -40-125 | °C |
| Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$) | V_{DRM} | 800 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 800 | V |
| RMS on-state current ($T_c \leq 90^\circ\text{C}$) | $I_{T(RMS)}$ | 6 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | I_{TSM} | 60 | A |
| I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$) | I^2t | 18 | A^2s |
| Critical rate of rise of on-state current ($T_j=125^\circ\text{C}$) | di/dt | 50 | $\text{A}/\mu\text{s}$ |
| Peak gate current ($t_p=20\mu\text{s}$, $T_j=125^\circ\text{C}$) | I_{GM} | 4 | A |
| Average gate power dissipation ($T_j=125^\circ\text{C}$) | $P_{G(AV)}$ | 1 | W |

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|-------------|--|-------------|-------|-----|------------------|
| I_{GT} | $V_D=12\text{V}$ $R_L=100\Omega$ | I - II -III | MAX. | 35 | mA |
| V_{GT} | | I - II -III | MAX. | 1 | V |
| V_{GD} | $V_D=V_{DRM}$ $T_j=125^{\circ}\text{C}$ $R_L=100\Omega$ | I - II -III | MIN. | 0.2 | V |
| I_L | $I_G=1.2I_{GT}$ | I -III | MAX. | 60 | mA |
| | | II | | 100 | |
| I_H | $I_T=500\text{mA}$ | | MAX. | 60 | mA |
| dV/dt | $V_D=2/3V_{DRM}$ $T_j=125^{\circ}\text{C}$ | | MIN. | 500 | V/ μs |
| $(dI/dt)_c$ | $T_j=125^{\circ}\text{C}$ | | MIN. | 10 | A/ms |

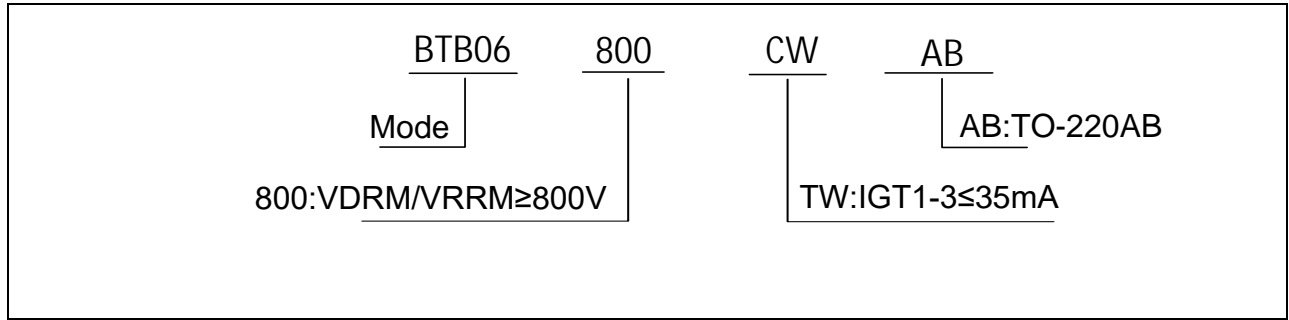
STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX.) | Unit |
|-----------|--|---------------------------|-------------|------------------|
| V_{TM} | $I_{TM}=10\text{A}$ $t_p=380\mu\text{s}$ | $T_j=25^{\circ}\text{C}$ | 1.55 | V |
| V_{TO} | Threshold voltage | $T_j=125^{\circ}\text{C}$ | 0.86 | V |
| R_D | Dynamic resistance | $T_j=125^{\circ}\text{C}$ | 36.6 | $\text{m}\Omega$ |
| I_{DRM} | $V_D=V_{DRM}$ $V_R=V_{RRM}$ | $T_j=25^{\circ}\text{C}$ | 5 | μA |
| I_{RRM} | | $T_j=125^{\circ}\text{C}$ | 1 | mA |

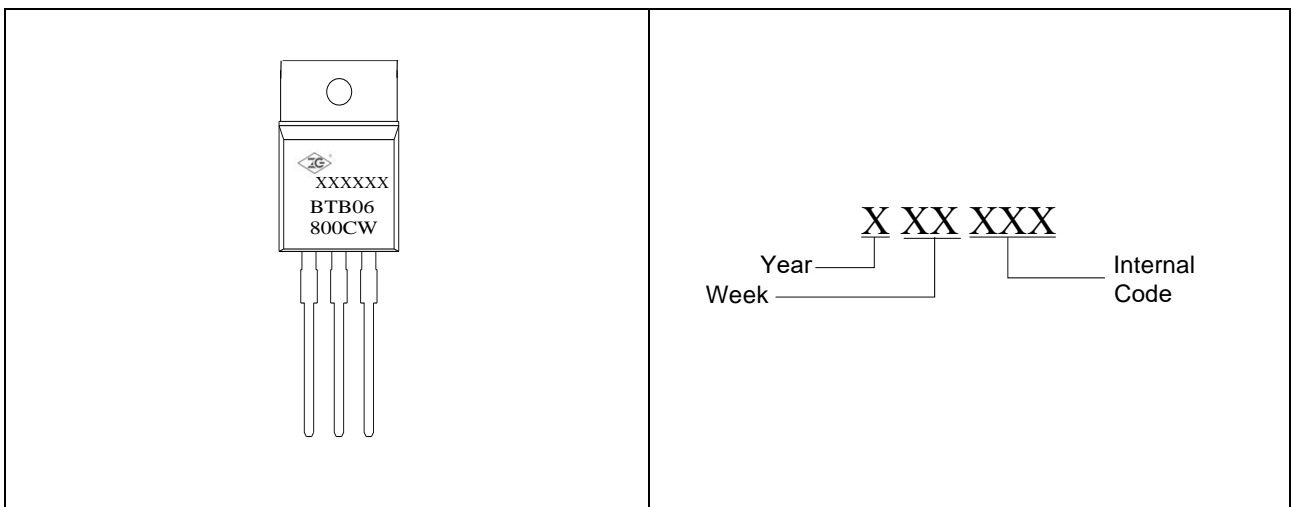
THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---------------|-----------------------|-------|-----------------------------|
| $R_{th(j-c)}$ | junction to case (AC) | 1.25 | $^{\circ}\text{C}/\text{W}$ |

ORDERING INFORMATION



MARKING



ORDERING INFORMATION

| Order code | Voltage V _{DRM} /V _{R_{RRM}} (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|----------------|---|-----------|----------|--------------------|------------------|
| | | I -II-III | | | |
| BTB06-800CW-AB | 800 | 35 | TO-220AB | 50 | Tube |

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

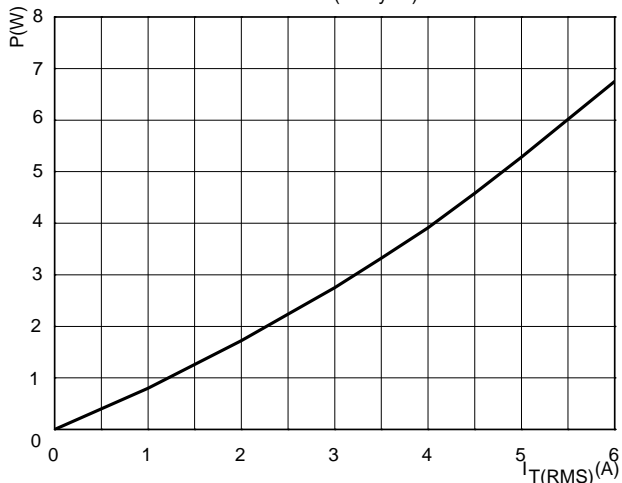


FIG.2: RMS on-state current versus case temperature (full cycle)

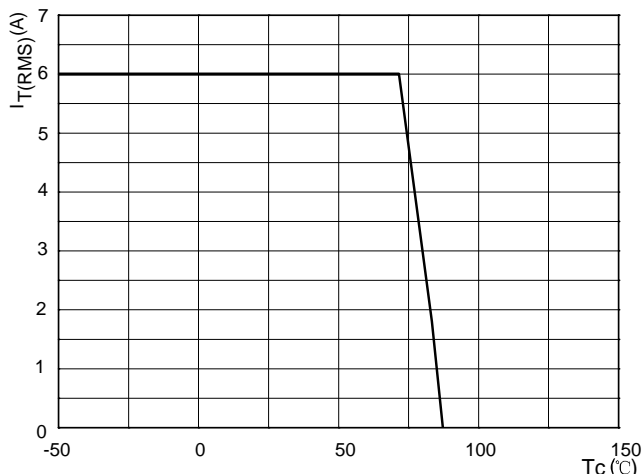


FIG.3: Surge peak on-state current versus number of cycles

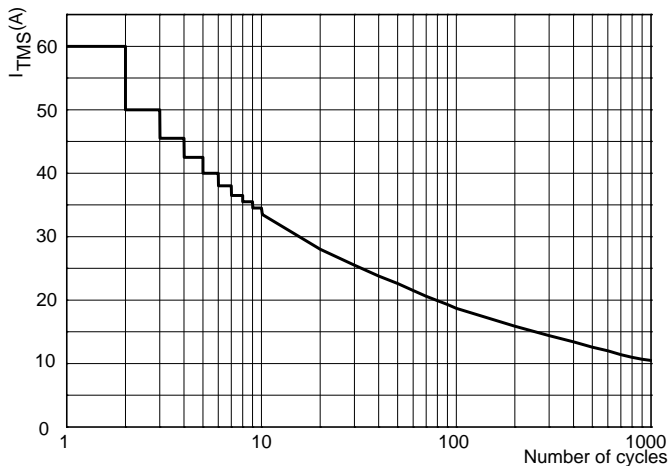


FIG.4: On-state characteristics (maximum values)

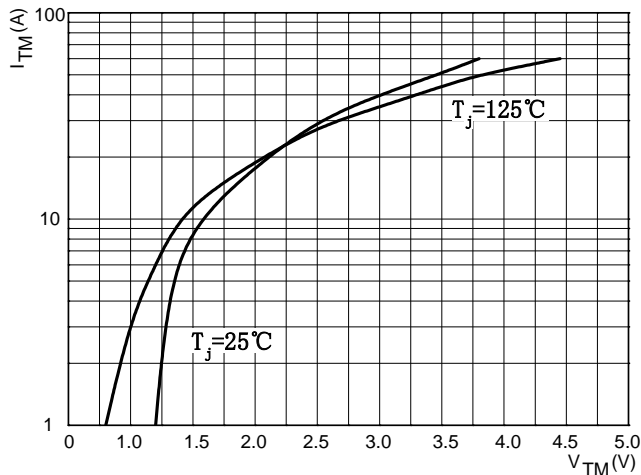


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$

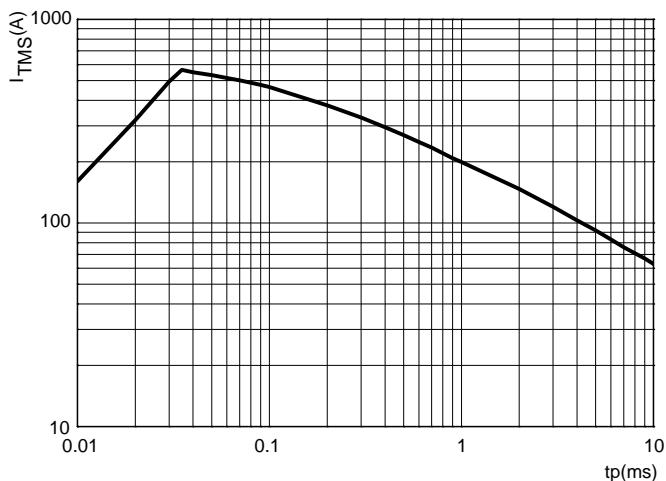


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

