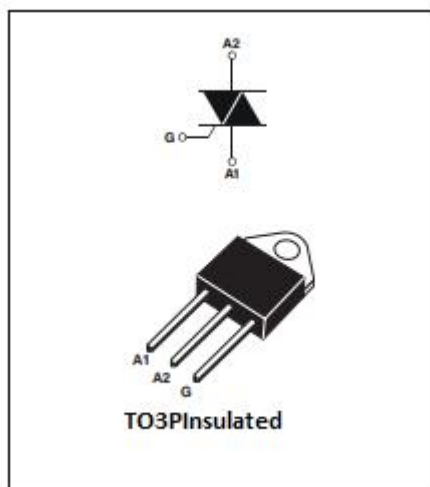


BTA60 Series 60A TRIACs

Rev: 1.0

DESCRIPTION:

The BTA60 triac series is suitable to fit all models of control Found in applications such as motor control ,industrial and domestic lighting ,heating and static switching , motor speed controllers,...Thanks to their clip assembly technique, they provide a superior performance in surge current handling capabilities By using an internal ceramic pad, the BTA series provides voltage insulated tab (rated at 2500VRMS) complying with UL standards



MAIN FEATURES

| Symbol | Value | Unit |
|-------------------|-----------|------|
| $I_{T(RMS)}$ | 60 | A |
| $V_{DRM} V_{RRM}$ | 1200/1600 | V |
| V_{TM} | 1.55 | V |

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 =25°C) | V_{DRM} | 1200/1600 | V |
| Repetitive peak reverse voltage (T =25°C) | V_{RRM} | 1200/1600 | V |
| RMS on-state current | $I_{T(RMS)}$ | 60 | A |
| Non repetitive surge peak on-state current (full cycle, F=50Hz) | I_{TSM} | 500 | A |
| I^2t value for fusing (tp=10ms) | I^2t | 1250 | A ² S |
| Critical rate of rise of on-state current (I =2×I _{GT}) | dI/dt | 50 | A/μS |
| Peak gate current | I_{GM} | 8 | A |
| Average gate power dissipation | $P_{G(AV)}$ | 1 | W |

BTA60 Series
ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)
3 Quadrants

| Symbol | Test Condition | Quadrant | | Value | Unit |
|----------|---|--------------|------|-------|------------|
| I_{GT} | $V = 12V$ $R = 33\Omega$ | I II III | MAX. | 50 | mA |
| V_{GT} | | I - II - III | MAX. | 1.3 | V |
| V_{GD} | $V_D = V_{DRM}$ $T_j = 125^\circ C$ $R = 3.3K\Omega$ | I - II - III | MIN. | 0.2 | V |
| I_L | $I_G = 1.2I_{GT}$ | I - III | MAX. | 80 | mA |
| | | II | | 180 | |
| I_H | $I_T = 100mA$ | | MAX. | 80 | mA |
| dV/dt | $V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$ | | MIN. | 1000 | V/ μs |

STATIC CHARACTERISTICS

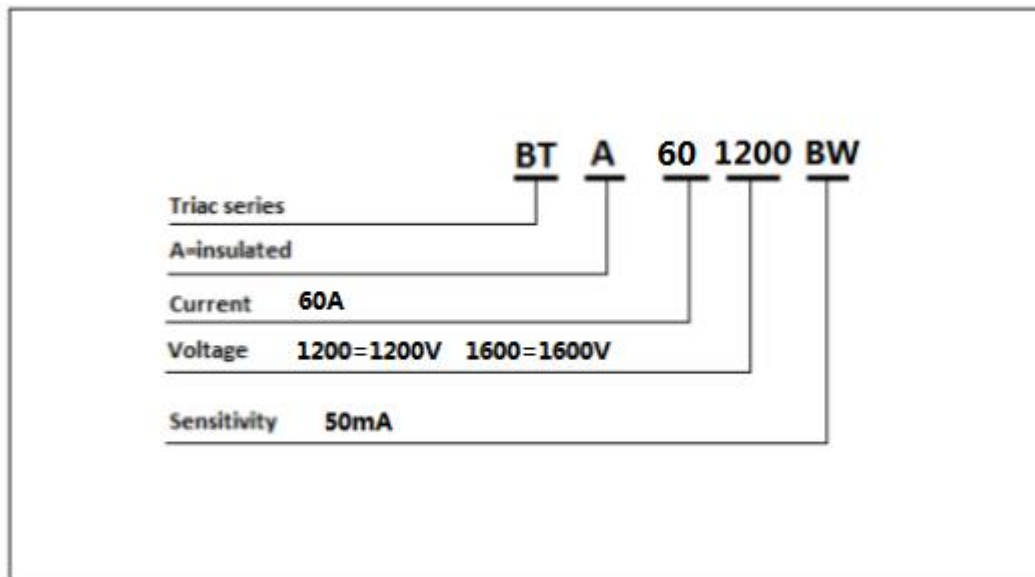
| Symbol | Parameter | | Value(MAX.) | Unit |
|-----------|---------------------------------|---------------------|-------------|---------|
| V_{TM} | $I_{TM} = 80A$ $t_p = 380\mu s$ | $T_j = 25^\circ C$ | 1.65 | V |
| I_{DRM} | $V_D = V_{DRM}$ $V_R = V_{RRM}$ | $T_j = 25^\circ C$ | 10 | μA |
| I_{RRM} | | $T_j = 125^\circ C$ | 5 | mA |

Thermal Resistances

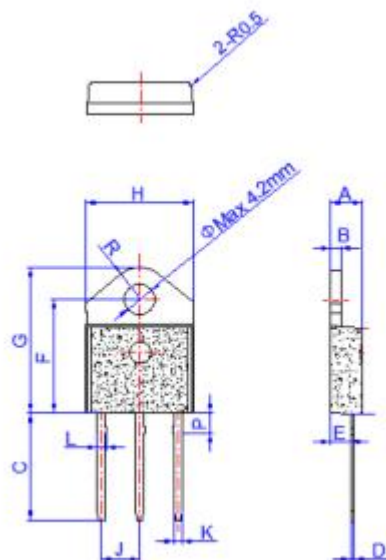
| Symbol | Parameter | Value | Unit |
|---------------|----------------------|-------|--------------|
| $R_{th(j-a)}$ | junction to ambient | 50 | $^\circ C/W$ |
| $R_{th(j-c)}$ | Junction to case(AC) | 0.8 | |

BTA60 Series

Ordering Information Scheme



TO-3P Package Mechanical Data



| Ref. | Dimensions | | | | | |
|------|-------------|------|-------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.40 | | 4.60 | 0.173 | | 1.181 |
| B | 1.45 | | 1.55 | 0.057 | | 0.061 |
| C | 14.35 | | 15.60 | 0.565 | | 0.614 |
| D | 0.50 | | 0.70 | 0.020 | | 0.028 |
| E | 2.70 | | 2.90 | 0.106 | | 0.114 |
| F | 15.80 | | 16.50 | 0.622 | | 0.650 |
| G | 20.40 | | 21.10 | 0.815 | | 0.831 |
| H | 15.10 | | 15.50 | 0.594 | | 0.610 |
| J | 5.40 | | 5.65 | 0.213 | | 0.222 |
| K | 1.10 | | 1.40 | 0.043 | | 0.055 |
| L | 1.35 | | 1.50 | 0.053 | | 0.059 |
| P | 2.80 | | 3.00 | 0.110 | | 0.118 |
| R | | 4.35 | | | 0.181 | |

BTA60 Series

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

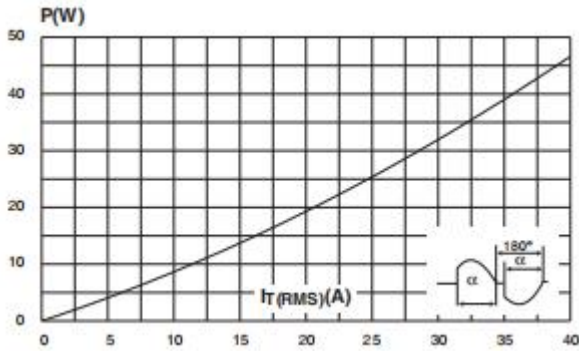


FIG.2: RMS on-state current versus case temperature

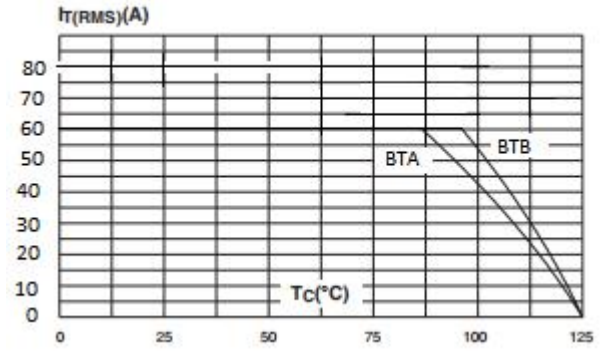


FIG.3: Surge peak on-state current versus number of cycles

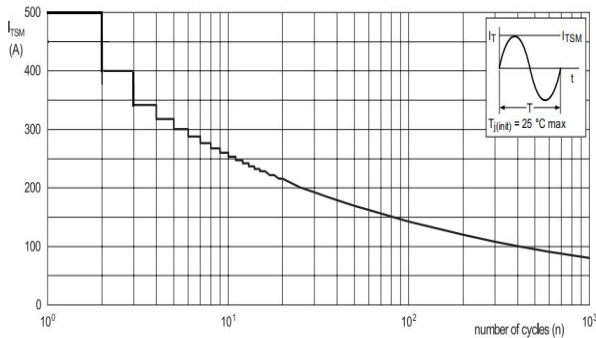


FIG.4: On-state characteristics (maximum values)

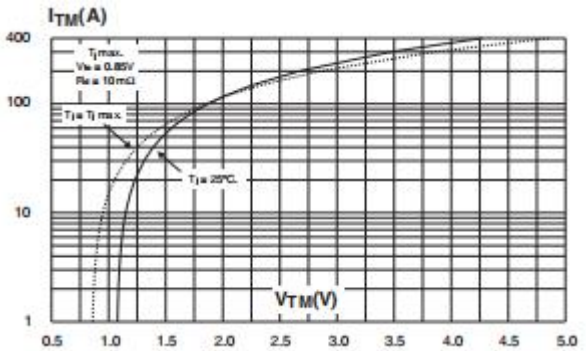


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

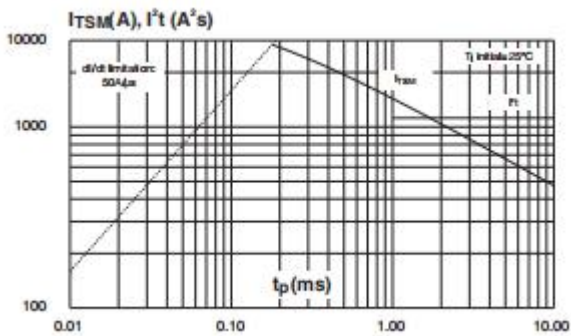


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

