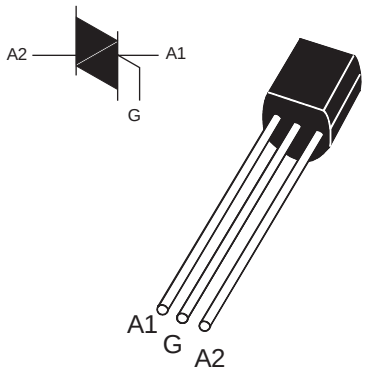
# Z00607MA
# Z00607DA

## SENSITIVE GATE TRIACS




**TO92**
(Plastic)

### FEATURES

- $I_{T(RMS)}$ = 0.8A
- $V_{DRM}$ = 400V and 600V
- $I_{GT}$ = 5mA

### DESCRIPTION

The Z006607xA triacs are intended for general applications where high gate sensitivity is required.

**ABSOLUTE RATINGS** (limiting values)

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $I_{T(RMS)}$ | RMS on-state current (360° conduction angle) | Tl= 50 °C | 0.8 | A |
| $I_{TSM}$ | Non repetitive surge peak on-state current ($T_j$ initial = 25°C ) | tp = 8.3 ms | 10.5 | A |
| | | tp = 10 ms | 10 | |
| | Non repetitive surge peak on-state current ($T_j$ initial = 110°C, full cycle) | F = 60Hz | 8 | |
| $I^2t$ | $I^2t$ Value for fusing | tp = 10 ms | 0.5 | $A^2s$ |
| $T_{stg}$<br>$T_j$ | Storage and operating junction temperature range | | - 40, + 150<br>- 40, + 110 | °C |
| Tl | Maximum lead temperature for soldering during 10s | | 260 | °C |

| Symbol | Parameter | Z00607xA | | Unit |
|---|---|---|---|---|
| | | D | M | |
| $V_{DRM}$<br>$V_{RRM}$ | Repetitive peak off-state voltage<br>$T_j$ = 110°C | 400 | 600 | V |

## THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| Rth(j-a) | Junction to ambient | 150 | °C/W |
| Rth(j-l) | Junction to lead | 60 | °C/W |

## GATE CHARACTERISTICS (maximum values)

$P_{G\ (AV)}$= 0.1 W $P_{GM}$ = 2 W (tp = 20 µs) $I_{GM}$ = 1 A (tp = 20 µs)

## ELECTRICAL CHARACTERISTICS

| Symbol | Test Conditions | | Quadrant | | Sensitivity | Unit |
|---|---|---|---|---|---|---|
| | | | | | 07 | |
| $I_{GT}$ | $V_D$=12V (DC) $R_L$=140Ω | Tj= 25°C | I-II-III | MAX | 5 | mA |
| | | | IV | MAX | 7 | |
| $V_{GT}$ | $V_D$=12V (DC) $R_L$=140Ω | Tj= 25°C | I-II-III-IV | MAX | 1.5 | V |
| $V_{GD}$ | $V_D$=$V_{DRM}$ $R_L$=3.3kΩ | Tj= 110°C | I-II-III-IV | MIN | 0.2 | V |
| tgt | $V_D$=$V_{DRM}$ $I_G$ = 25mA<br>$I_T$ = 1.0A<br>$dI_G/dt$ = 0.25A/µs | Tj= 25°C | I-II-III-IV | TYP | 2 | µs |
| $I_H$ * | $I_T$= 200 mA Gate open | Tj= 25°C | | MAX | 5 | mA |
| $I_L$ | $I_G$= 1.2 $I_{GT}$ | Tj= 25°C | I-III-IV | MAX | 10 | mA |
| | | | II | MAX | 20 | |
| $V_{TM}$ * | $I_{TM}$= 1.1A tp= 380µs | Tj= 25°C | | MAX | 1.5 | V |
| $I_{DRM}$<br>$I_{RRM}$ | $V_D$ = $V_{DRM}$<br>$V_R$ = $V_{RRM}$ | Tj= 25°C | | MAX | 10 | µA |
| | | Tj= 110°C | | MAX | 0.1 | mA |
| dV/dt * | VD=67%$V_{DRM}$<br>Gate open | Tj= 110°C | | MIN | 10 | V/µs |
| (dV/dt)c * | (dI/dt)c = 0.35 A/ms | Tj= 110°C | | MIN | 1.5 | V/µs |

* For either polarity of electrode $A_2$ voltage with reference to electrode $A_1$

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

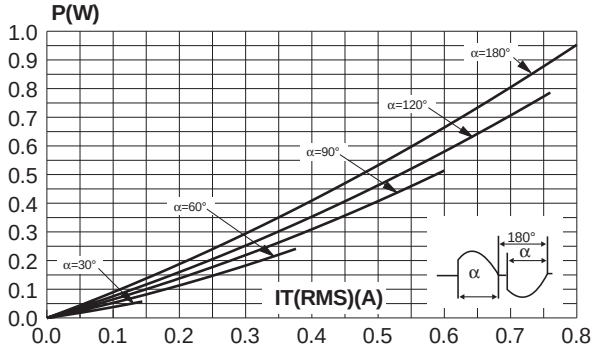



**Fig 2:** Correlation between maximum power dissipation and maximum allowable temperatures (Tamb and Tlead).

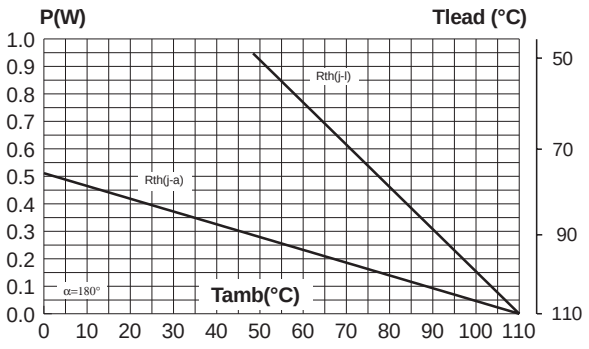


**Fig 3:** RMS on-state current versus ambient temperature.

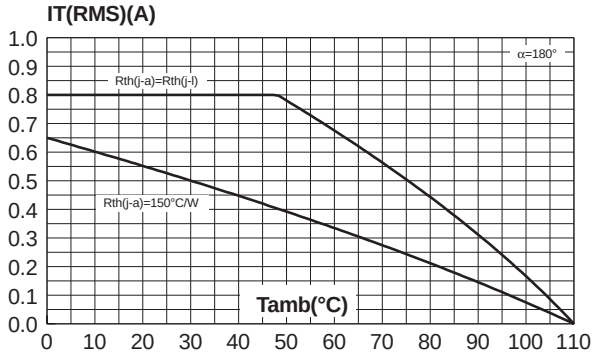



**Fig 4:** Relative variation of thermal impedance junction to ambient versus pulse duration.

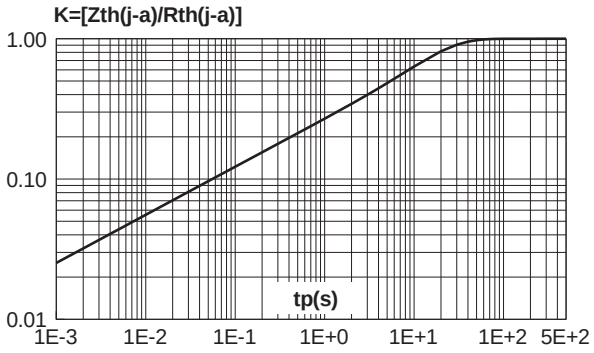



**Fig 5:** Relative variation of gate trigger current and holding current versus junction temperature (typical values).

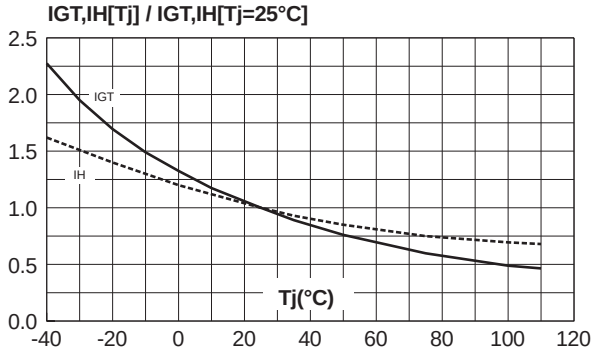



**Fig 6:** Non repetitive surge peak on-state current versus number of cycles.

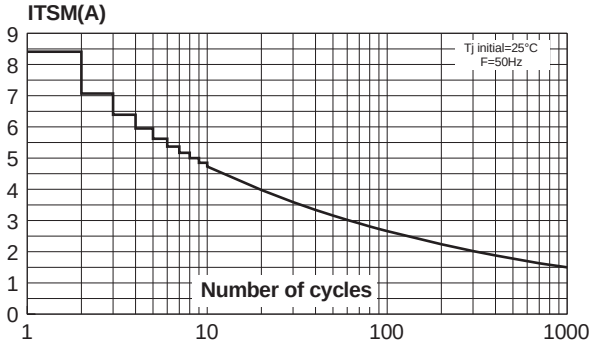



**Fig 7:** Non repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponding value of $I^2t$.

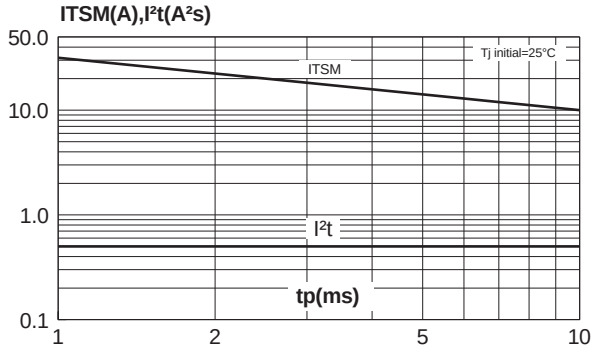
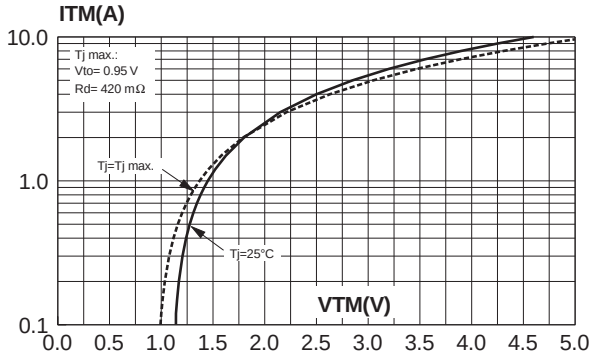
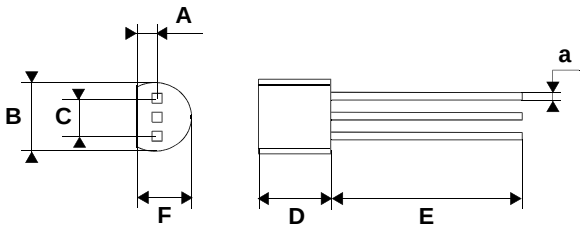



**Fig 8:** On-state characteristics (maximum values).



## PACKAGE MECHANICAL DATA

TO92 (Plastic)




| REF. | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Typ. | Min. | Max. | Typ. | Min. | Max. |
| A | 1.35 | | | 0.053 | | |
| B | | | 4.70 | | | 0.185 |
| C | 2.54 | | | 0.100 | | |
| D | | 4.40 | | | 0.173 | |
| E | | 12.70 | | | 0.500 | |
| F | | | 3.70 | | | 0.146 |
| a | | | 0.45 | | | 0.017 |

| Ordering type | Marking | Package | Weight | Base qty | Delivery mode |
|---|---|---|---|---|---|
| Z00607DA 1BA2 | Z0607DA | TO92 | 0.2g. | 2500 | Bulk |
| Z00607MA 1BA2 | Z0607MA | TO92 | 0.2g. | 2500 | Bulk |