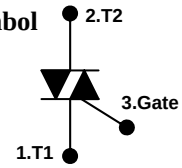
SemiHow
SEMICONDUCTOR TOTAL SOLUTION®

# HTx2-600

$V_{DRM}$ = 600 V
$I_{T(RMS)}$ = 2.0A

Symbol




1.T1 2. T2 3. Gate




HTC2-600




HTM2-600

## FEATURES

- Repetitive Peak Off-State Voltage: 600V
- R.M.S On-state Current ($IT_{(RMS)}$=2A)
- High Commutation dv/dt

## General Description

The Triac HTx2-600 is suitable for AC switching application, phase control application such as heater control, motor control, lighting control, and static switching relay.

## Absolute Maximum Ratings (Ta=25℃)

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{DRM}$ | Repetitive Peak Off-State Voltage | 600 | V |
| $I_{T(RMS)}$ | R.M.S On-State Current (Ta = 66℃) | 1.5 | A |
| $I_{TSM}$ | Surge On-State Current (One Cycle, 50/60Hz, Peak, Non Repetitive) | 13/15 | A |
| $V_{GM}$ | Peak Gate Voltage | 6 | V |
| $I_{GM}$ | Peak Gate Current | 0.5 | A |
| $P_{GM}$ | Peak Gate Power Dissipation | 1 | W |
| $T_{STG}$ | Storage Temperature Range | -40 to +125 | ℃ |
| $T_j$ | Operating Temperature Range | -40 to +125 | ℃ |

◎ SEMIHOW REV.1.0 Jan 2006

## Electrical Characteristics ($T_a$=25℃)

| Symbol | Parameter | Test Conditions | | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|---|
| $I_{GT}$ | Gate Trigger Current | $V_D$=6V, $R_L$=10Ω | 1+, 1-, 3- | | | 20 | mA |
| $V_{GT}$ | Gate Trigger Voltage | $V_D$=6V, $R_L$=10Ω | 1+, 1-, 3- | | | 1.5 | V |
| $V_{GD}$ | Non Trigger Gate Voltage | Tj=125℃, $V_D$=1/2$V_{DRM}$ | | 0.2 | | | V |
| (dv/dt)c | Critical Rate of Rise of Off-State Voltage at Communication | Tj=125℃, VD=2/3VDRM (di/dt)c=-0.75A/ms | | 5 | | | V/uS |
| $I_H$ | Holding Current | | | | 5 | | mA |
| $I_{DRM}$ | Repetitive Peak Off-State Current | $V_D$=$V_{DRM}$, Single Phase, Half Wave, $T_j$=125℃ | | | | 0.5 | mA |
| $V_{TM}$ | Peak On-State Voltage | IT=6A, Inst, Measurement | | | | 1.6 | V |

## Thermal Characteristics

| Symbol | Parameter | Test Conditions | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| $R_{TH(J-C)}$ | Thermal Resistance | Junction to Case | | | 6.25 | ℃/W |

◎ SEMIHOW REV.1.0 Jan 2006

## Performance Curves

**Fig 1. Gate Characteristics**

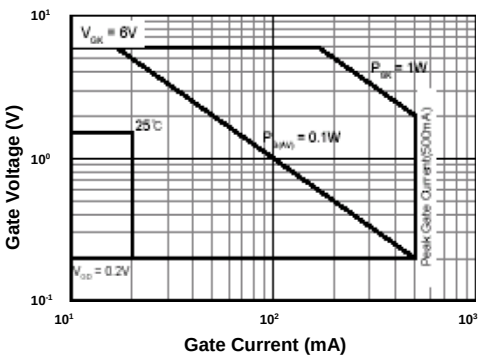



**Fig 2.On-State Voltage**

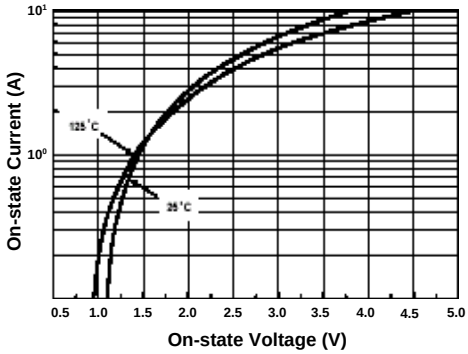



**Fig 3. Gate Trigger Voltage vs. Junction Temperature**

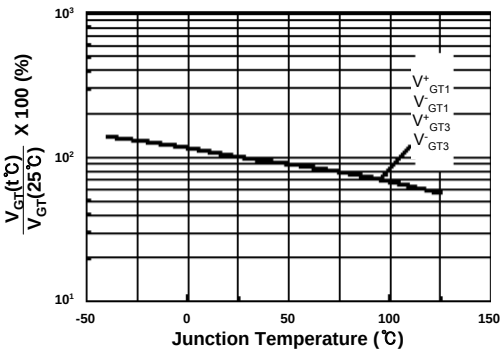



**Fig 4. On State Current vs. Maximum Power Dissipation**

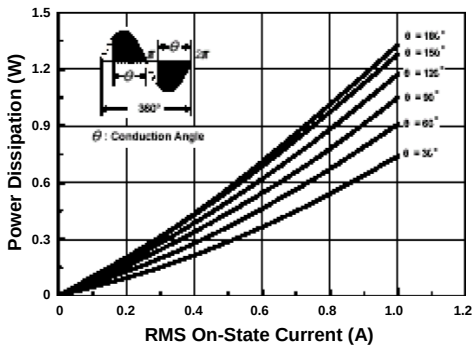



**Fig 5. On State Current vs. Allowable Case Temperature**

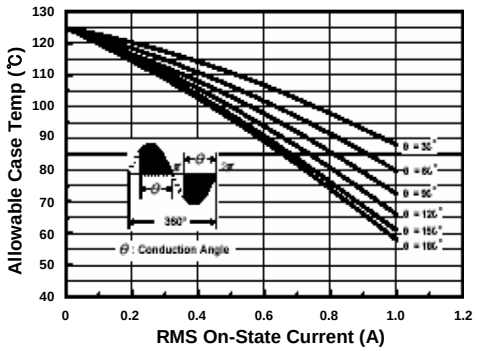
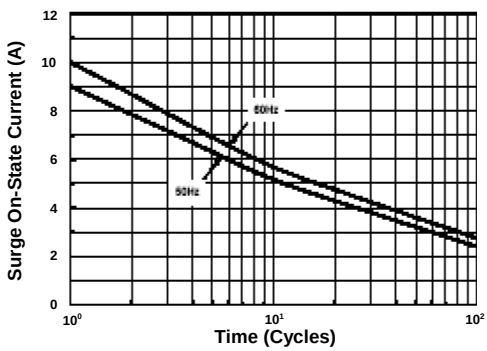



**Fig 6. Surge On-State Current Rating (Non-Repetitive)**




© SEMIHOW REV.1.0 Jan 2006

**Fig 7. Gate Trigger Current vs. Junction Temperature**

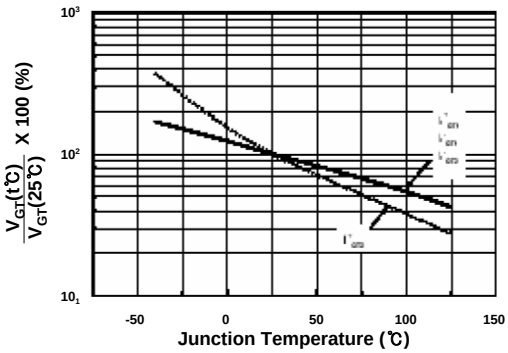



**Fig8. Transient Thermal Impedance**

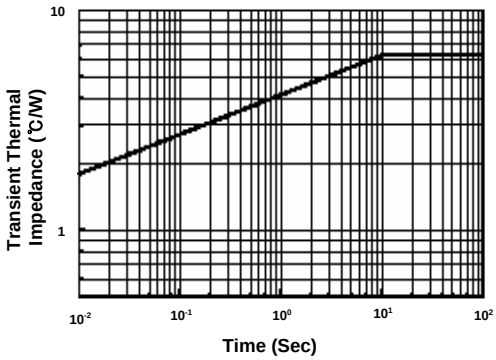
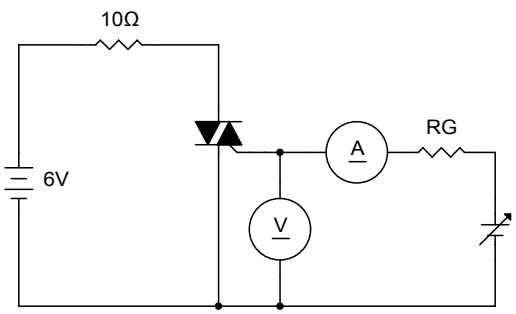
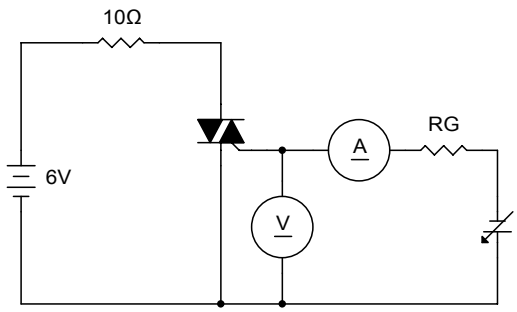


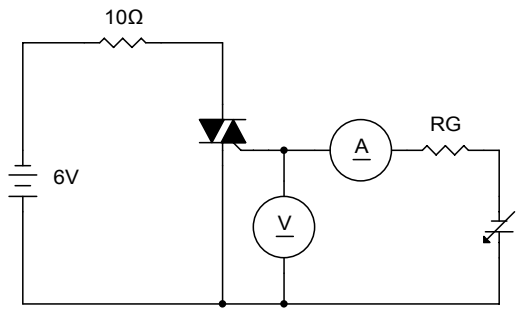

**Fig 7. Gate Trigger Characteristics Test Circuit**




**Test Procedure I**




**Test Procedure II**



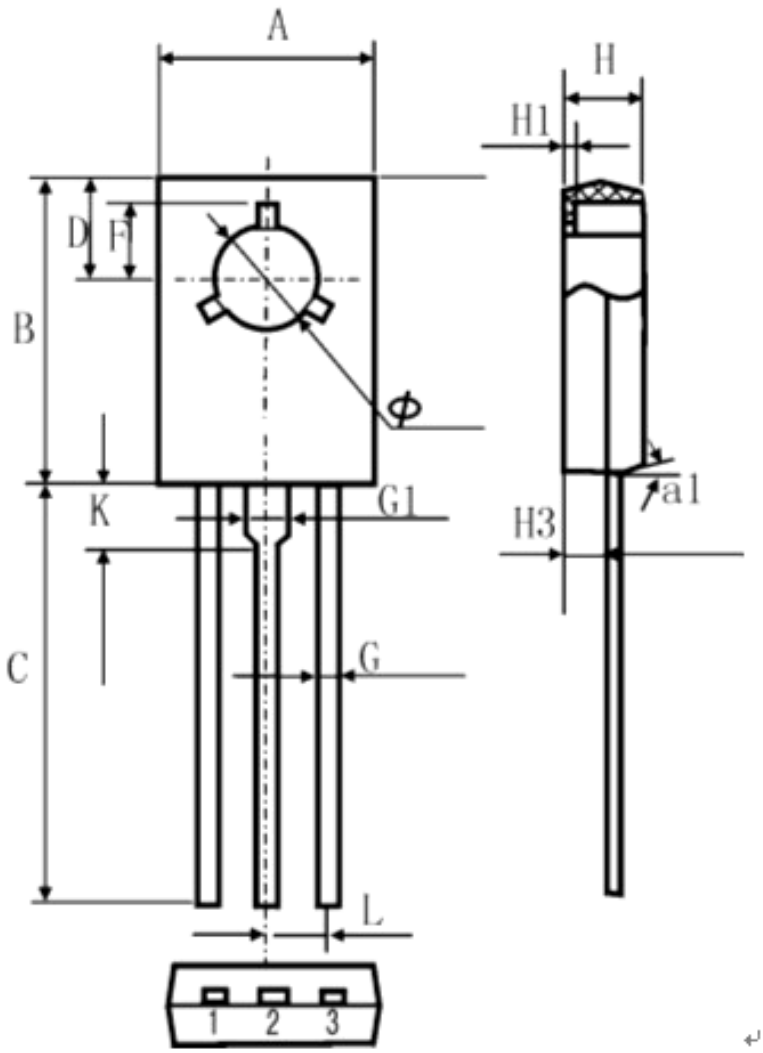

**Test Procedure III**

◎ SEMIHOW REV.1.0 Jan 2006

## Package Dimension

# HTC2-600
# (TO-126)

| DIM | Millimeters |
|---|---|
| A | 8.5max |
| B | 12.0max |
| C | 13.0min |
| D | 3.8±0.2 |
| G | 0.78±0.08 |
| G1 | 1.2 |
| H | 2.8max |
| H3 | 1.27 |
| K | 2.5±0.2 |
| L | 2.3max |
| ϕ | 3.20±0.2 |



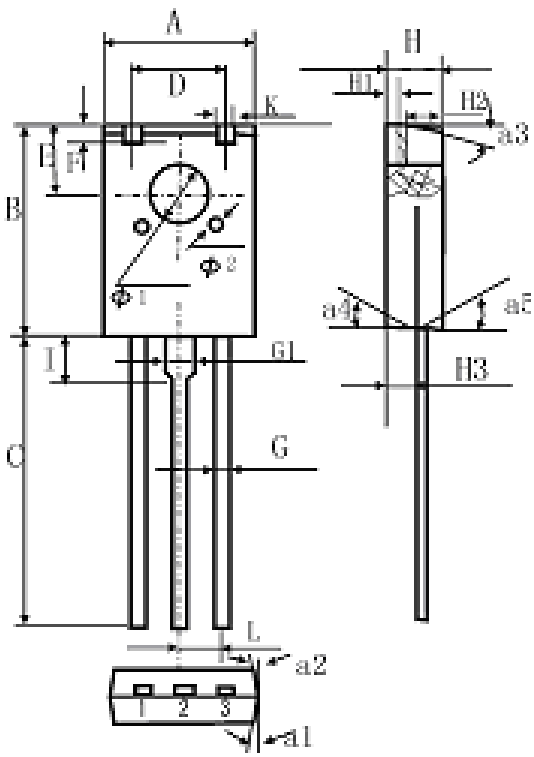

Dimensions in Millimeters

© SEMIHOW REV.1.0 Jan 2006

## Package Dimension

# HTM2-600
# (TO-126ML)

| corresponding symbol | measurement |
|---|---|
| A(mm) | 7.99±0.25 |
| B(mm) | 11.12±0.25 |
| C(mm) | 14.5±0.5 |
| E(mm) | 3.625±0.125 |
| F(mm) | 1.4±0.12 |
| G(mm) | 0.76±0.08 |
| G1(mm) | 1.3±0.12 |
| H(mm) | 3.57±0.13 |
| H3(mm) | 2.01±0.13 |
| I(mm) | 2.99±0.38 |
| K(mm) | 1.0±0.12 |
| L(mm) | 2.3MAX |
| ϕ1(mm) | 3.0±0.12 |




© SEMIHOW REV.1.0 Jan 2006