

# TRIAC ( ISOLATED MOLD TYPE )

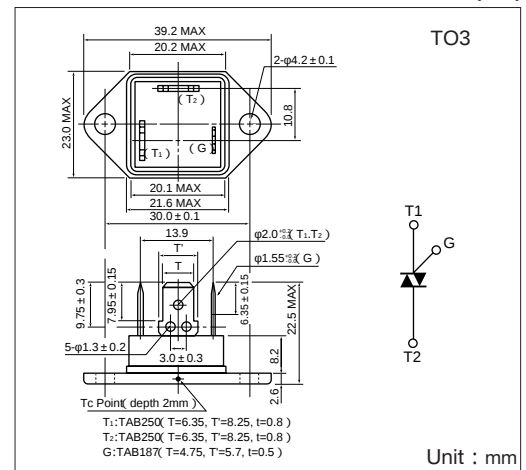
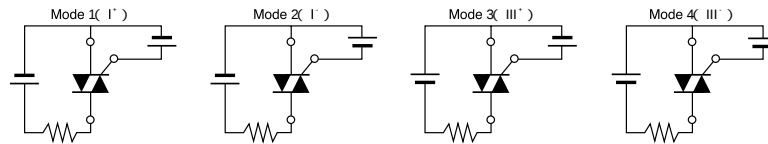
## TG35C

UL:E76102(M)

**SanRex** Triac **TG35C** is isolated mold TRIAC suitable for wide range of applications like Copier Machines, Micro Wave Ovens, Solid State Switches, Motor Controls, Light Controls and Heater Controls.

- $I_T(AV)$  35A
- High surge capability 330A
- Isolated Mounting( AC2500V )
- Tab Terminals

Trigger mode of the triac



### ■ Maximum Ratings

(  $T_j = 25$  unless otherwise specified )

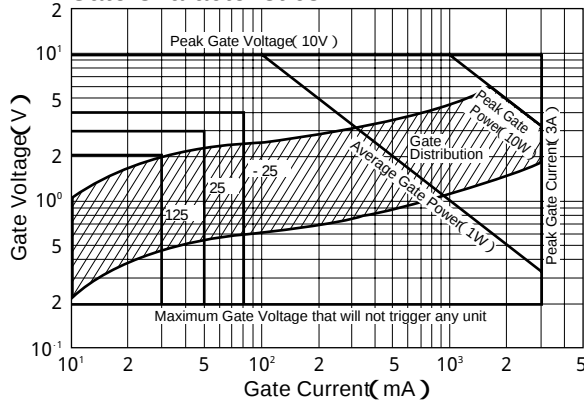
| Symbol           | Item                              | Ratings |         | Unit |
|------------------|-----------------------------------|---------|---------|------|
|                  |                                   | TG35C40 | TG35C60 |      |
| V <sub>DRM</sub> | Repetitive Peak Off-State Voltage | 400     | 600     | V    |

| Symbol              | Item                                      | Conditions                                                                                                         | Ratings       | Unit              |
|---------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------|-------------------|
| I <sub>T(RMS)</sub> | R.M.S. On-State Current                   | T <sub>C</sub> = 58                                                                                                | 35            | A                 |
| I <sub>TSM</sub>    | Surge On-State Current                    | One cycle, 50Hz/60Hz, peak, non-repetitive                                                                         | 300/330       | A                 |
| I <sup>2</sup> t    | I <sup>2</sup> t                          | Value for one cycle of surge current                                                                               | 450           | A <sup>2</sup> S  |
| P <sub>GM</sub>     | Peak Gate Power Dissipation               |                                                                                                                    | 10            | W                 |
| P <sub>G(AV)</sub>  | Average Gate Power Dissipation            |                                                                                                                    | 1             | W                 |
| I <sub>GM</sub>     | Peak Gate Current                         |                                                                                                                    | 3             | A                 |
| V <sub>GM</sub>     | Peak Gate Voltage                         |                                                                                                                    | 10            | V                 |
| di/dt               | Critical Rate of Rise of On-State Current | I <sub>G</sub> = 100mA ,T <sub>J</sub> = 25    ,V <sub>D</sub> = 1/2V <sub>DRM</sub> ,dI <sub>G</sub> /dt = 1A/μ s | 50            | A/μ s             |
| T <sub>J</sub>      | Operating Junction Temperature            |                                                                                                                    | - 25 to + 125 |                   |
| T <sub>stg</sub>    | Storage Temperature                       |                                                                                                                    | - 40 to + 125 |                   |
| V <sub>iso</sub>    | Isolation Breakdown Voltage ( R.M.S. )    | A.C.1 minute                                                                                                       | 2500          | V                 |
|                     | Mounting Torque( M4 )                     | Recommended Value 1.0 ~ 1.4( 10 ~ 14 )                                                                             | 1.5( 15 )     | N·m<br>( kgf·cm ) |
|                     | Mass                                      | Typical value ( Excluding bolt, nut and wrapping material )                                                        | 23            | g                 |

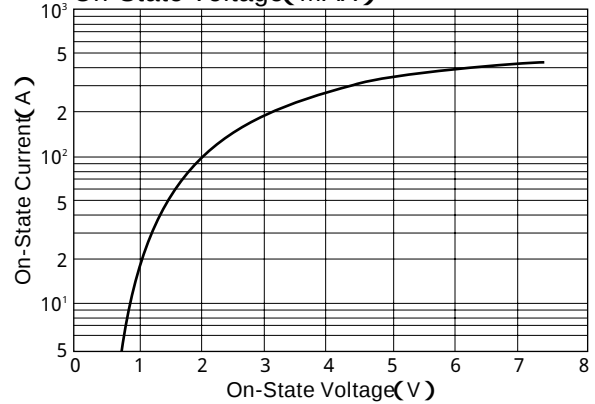
### ■ Electrical Characteristics

| Symbol        | Item                                                        | Conditions                                                                 | Ratings | Unit       |
|---------------|-------------------------------------------------------------|----------------------------------------------------------------------------|---------|------------|
| $I_{DRM}$     | Reptitive Peak Off-State Current, max                       | $V_D = V_{DRM}$ , Single phase, half wave, $T_j = 125$                     | 5       | mA         |
| $V_{TM}$      | Peak On-State Voltage, max                                  | On-State Current ( $\sqrt{2} \times I_{T(RMS)}$ ), Inst. measurement       | 1.4     | V          |
| $I_{GT1}^+$   | Gate Trigger Current, max                                   | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 50      | mA         |
| $I_{GT1}^-$   |                                                             | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 50      |            |
| $I_{GT3}^+$   |                                                             |                                                                            | -       |            |
| $I_{GT3}^-$   |                                                             | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 50      |            |
| $V_{GT1}^+$   | Gate Trigger Voltage, max                                   | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 3       | V          |
| $V_{GT1}^-$   |                                                             | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 3       |            |
| $V_{GT3}^+$   |                                                             |                                                                            | -       |            |
| $V_{GT3}^-$   |                                                             | $T_j = 25, I_T = 1A, V_D = 6V$                                             | 3       |            |
| $V_{GD}$      | Non-Trigger Gate Voltage, min                               | $T_j = 125, V_D = 1/2 V_{DRM}$                                             | 0.2     | V          |
| $t_{gt}$      | Turn On Time, max.                                          | $I_{T(RMS)}, I_G = 100mA, V_D = 1/2 V_{DRM}, T_j = 25, dI_G/dt = 1A/\mu s$ | 10      | V          |
| $dv/dt$       | Critical Rate of Rise on-State Voltage, min.                | $T_j = 125, V_D = 2/3 V_{DRM}$ , Exponential wave.                         | 20      | V/ $\mu s$ |
| $(dv/dt)_c$   | Critical Rate of Rise off-State Voltage at commutation, min | $T_j = 125, V_D = 2/3 V_{DRM}, (di/dt)_c = 15A/ms$                         | 5       | V/ $\mu s$ |
| $I_H$         | Holding Current, typ.                                       | $T_j = 25$                                                                 | 30      | mA         |
| $R_{th(j-c)}$ | Thermal Impedance, max                                      | Junction to case                                                           | 1.5     | /W         |

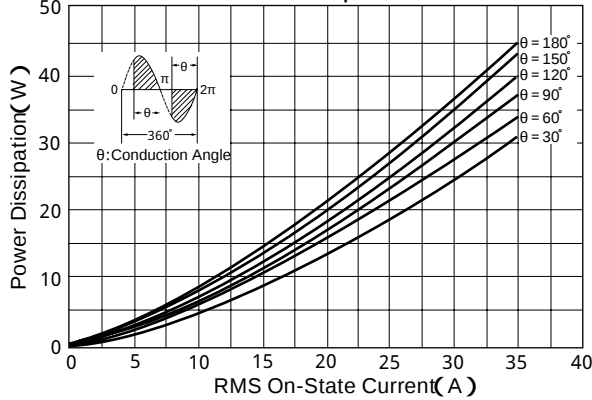
**Gate Characteristics**



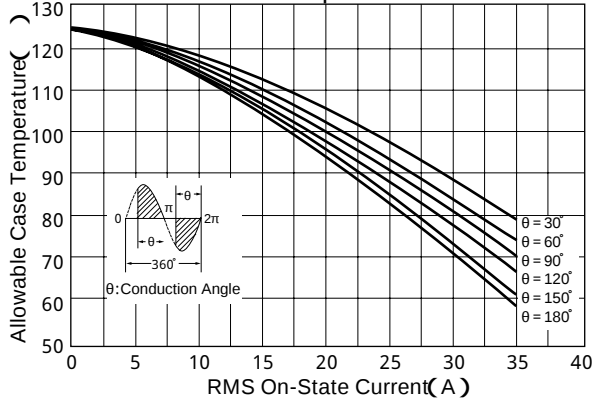
**On-State Voltage( MAX )**



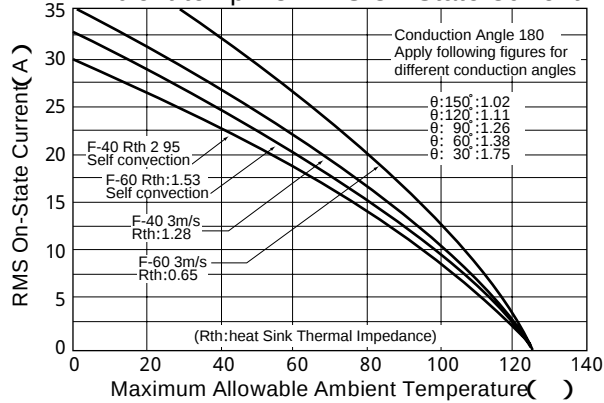
**On State Current vs. Maximum Power Dissipation**



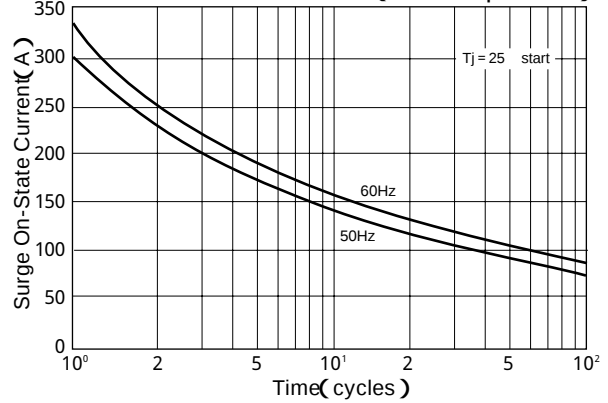
**On State Current vs. Allowable Case Temperature**



**Ambient temp. vs. RMS On-State Current**



**Surge On-State Current Rating (Non-Repetitive)**



**Transient Thermal Impedance**

