

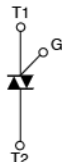
# TRIAC (ISOLATED TYPE)

## TG35F

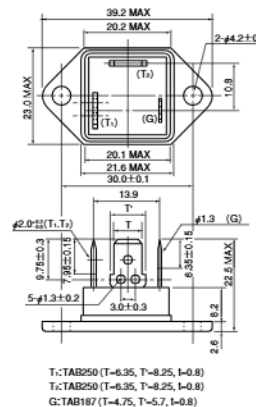
UL:E76102 (M)

TG35F are isolated molded triacs suitable for wide range of applications like copier, microwave oven, solid state switch, motor control, light control and heater control.

- $I_T(AV)$  35A
- High surge capability 340A
- Isolated Mounting (AC2500V)
- Tab Terminals



● TG-F



T: TAB250 (T=6.25, T=8.25, L=0.8)  
T: TAB250 (T=6.25, T=8.25, L=0.8)  
G: TAB187 (T=4.75, T=5.7, L=0.8)

Unit : mm

### Maximum Ratings

(T<sub>j</sub>=25°C unless otherwise specified)

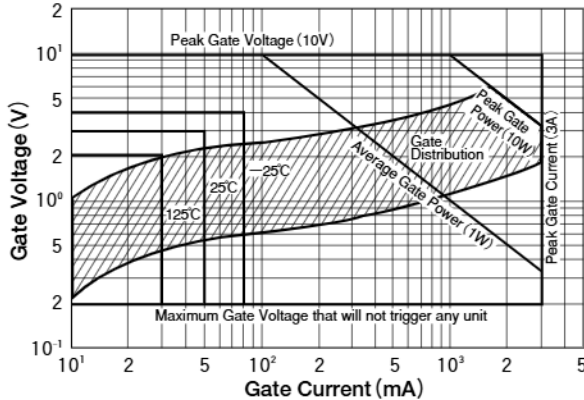
| Symbol           | Item                              | Ratings |         | Unit |
|------------------|-----------------------------------|---------|---------|------|
|                  |                                   | TG35F40 | TG35F60 |      |
| V <sub>DRM</sub> | Repetitive Peak Off-State Voltage | 400     | 600     | V    |

| Symbol               | Item                                      | Conditions                                                                                                  | Ratings     | Unit            |
|----------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| I <sub>T (RMS)</sub> | R.M.S. On-State Current                   | T <sub>c</sub> =67℃                                                                                         | 35          | A               |
| I <sub>TSM</sub>     | Surge On-State Current                    | One cycle, 50Hz/60Hz, peak, non-repetitive                                                                  | 310/340     | A               |
| I <sup>2</sup> t     | I <sup>2</sup> t                          | Value for one cycle of surge current                                                                        | 485         | A²S             |
| 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/μs | 50          | A/μs            |
| 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               |

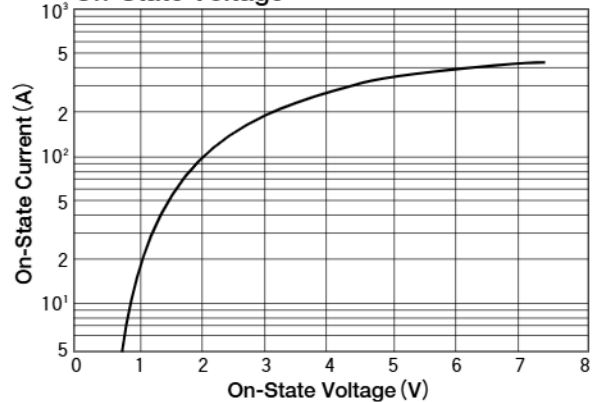
### Electrical Characteristics

| Symbol                        | Item                                                        | Conditions                                                                                                            | Ratings | Unit |
|-------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------|------|
| I <sub>DRM</sub>              | Repetitive Peak Off-State Current, max                      | V <sub>D</sub> =V <sub>DRM</sub> , Single phase, half wave, T <sub>j</sub> =125°C                                     | 3       | mA   |
| V <sub>TM</sub>               | Peak On-State Voltage, max                                  | On-State Current (√2 × I <sub>T(RMS)</sub> ), Inst. measurement                                                       | 1.38    | V    |
| I <sub>GT1</sub> <sup>+</sup> | Gate Trigger Current, max                                   | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 50      | mA   |
| I <sub>GT1</sub> <sup>-</sup> |                                                             | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 50      |      |
| I <sub>GT3</sub> <sup>+</sup> |                                                             |                                                                                                                       | —       |      |
| I <sub>GT3</sub> <sup>-</sup> |                                                             | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 50      |      |
| V <sub>GT1</sub> <sup>+</sup> | Gate Trigger Voltage, max                                   | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 2.5     | V    |
| V <sub>GT1</sub> <sup>-</sup> |                                                             | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 2.5     |      |
| V <sub>GT3</sub> <sup>+</sup> |                                                             |                                                                                                                       | —       |      |
| V <sub>GT3</sub> <sup>-</sup> |                                                             | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V                                                          | 2.5     |      |
| V <sub>GD</sub>               | Non-Trigger Gate Voltage, min                               | T <sub>j</sub> =125°C, V <sub>D</sub> =1/2 V <sub>DRM</sub>                                                           | 0.2     | V    |
| t <sub>gt</sub>               | Turn On Time, max.                                          | I <sub>T(RMS)</sub> , I <sub>G</sub> =100mA, V <sub>D</sub> =1/2 V <sub>DRM</sub> , T <sub>j</sub> =25°C, di/dt=1A/μs | 10      | V    |
| dv/dt                         | Critical Rate of Rise on-State Voltage, min.                | T <sub>j</sub> =125°C, V <sub>D</sub> =2/3 V <sub>DRM</sub> , Exponential wave.                                       | 100     | V/μs |
| (dv/dt) <sub>c</sub>          | Critical Rate of Rise off-State Voltage at commutation, min | T <sub>j</sub> =125°C, V <sub>D</sub> =2/3 V <sub>DRM</sub> , (di/dt) <sub>c</sub> =15A/ms                            | 10      | V/μs |
| I <sub>H</sub>                | Holding Current, typ.                                       | T <sub>j</sub> =25°C                                                                                                  | 30      | mA   |
| R <sub>th(j-c)</sub>          | Thermal Impedance, max                                      | Junction to case                                                                                                      | 1.5     | °C/W |

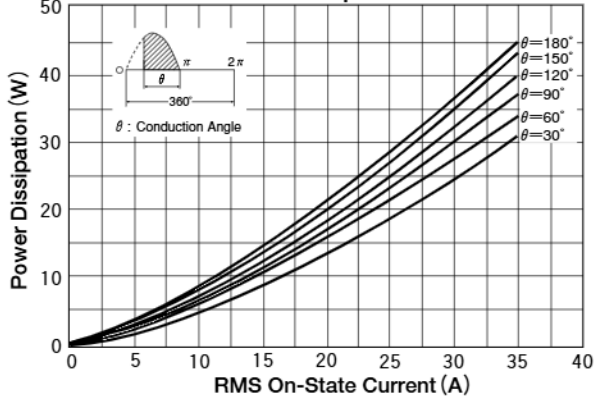
## Gate Characteristics



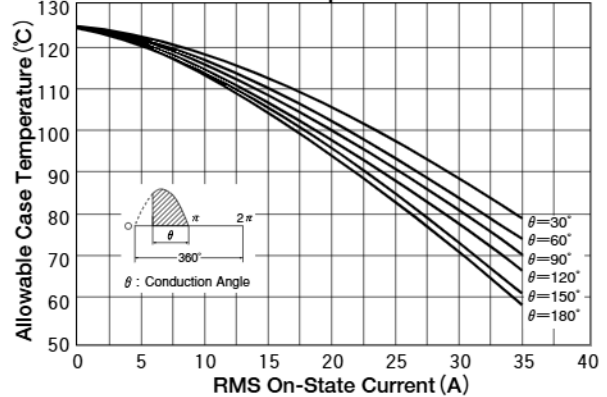
## On-State Voltage



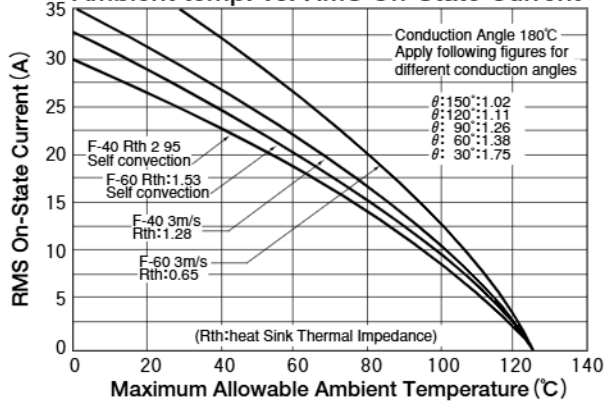
## On State Current vs. Maximum Power Dissipation



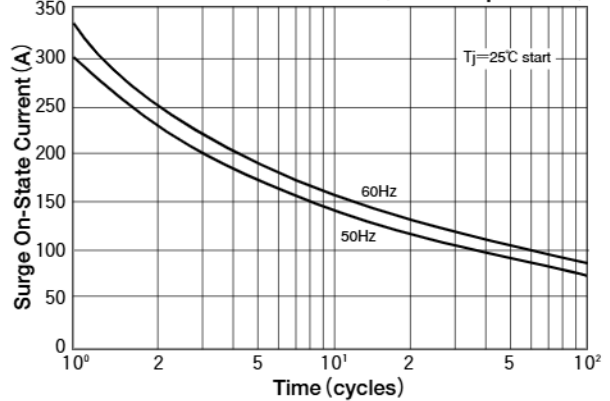
## On State Current vs. Allowable Case Temperature



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



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



## Transient Thermal Impedance

