

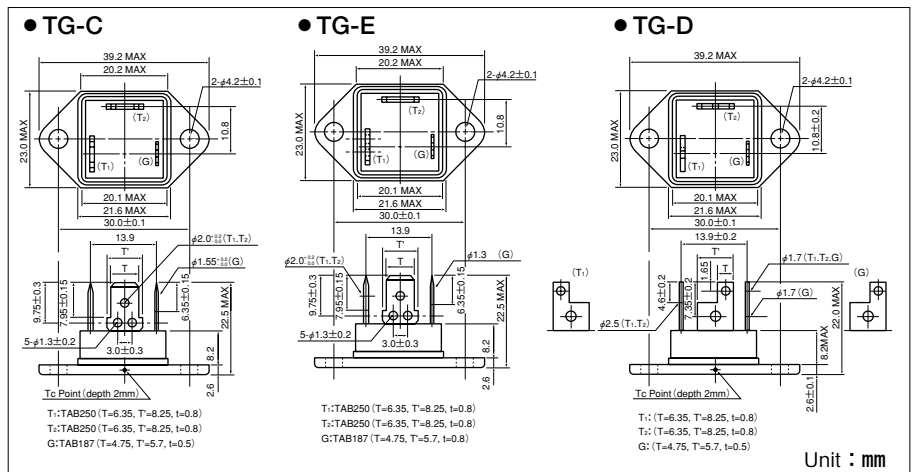
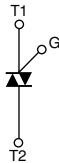
# TRIAC (ISOLATED TYPE)

# TG25C/E/D

UL:E76102(M)

TG25C/E/D are isolated molded triacs suitable for wide range of applications like copier, microwave oven, solid state switch, motor control, light control and heater control.

- $I_T(AV)$  25A
- High surge capability 250A
- Isolated Nounting (AC2500V)
- Tab Terminals



## Maximum Ratings

(Tj=25°C unless otherwise specified)

| Symbol           | Item                              | Ratings |         | Unit |
|------------------|-----------------------------------|---------|---------|------|
|                  |                                   | TG25C40 | TG25C60 |      |
| 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> =74°C   | 25          | A                |
| I <sub>TSM</sub>    | Surge On-State Current                    | One cycle, 50Hz/60Hz, peak, non-repetitive   | 220/250     | A                |
| I <sup>2</sup> t    | I <sup>2</sup> t                          | Value for one cycle of surge current   | 260         | 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°C, 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 | °C               |
| T <sub>stg</sub>    | Storage Temperature                       |  | -40 to +125 | °C               |
| 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 (kgf·cm)     |
|                     | Mass                                      | Typical value (Excluding bolt, nut and wrapping material)  | 27          | g                |

## Electrical Characteristics

| Symbol                        | Item  | Conditions   | Ratings | Unit |
|-------------------------------|---|--|---------|------|
| I <sub>DRM</sub>              | Reptitive Peak Off-State Current, max                       | V <sub>D</sub> =V <sub>DRM</sub> , Single phase, half wave, T <sub>j</sub> =125°C  | 5       | mA   |
| V <sub>TM</sub>               | Peak On-State Voltage, max                                  | On-State Current (√2×I <sub>T(RMS)</sub> ), Inst. measurement  | 1.4     | 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   | 3       | V    |
| V <sub>GT1</sub> <sup>-</sup> |   | T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V   | 3       |      |
| 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   | 3       |      |
| V <sub>GD</sub>               | Non-Trigger Gate Voltage, min                               | T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <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> =1/2V <sub>DRM</sub> , T <sub>j</sub> =25°C, di <sub>G</sub> /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> =2/3V <sub>DRM</sub> , Exponential wave.   | 50      | 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> =2/3V <sub>DRM</sub> , [di/dt] <sub>c</sub> =15A/ms  | 6       | 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   | 1.6     | °C/W |

