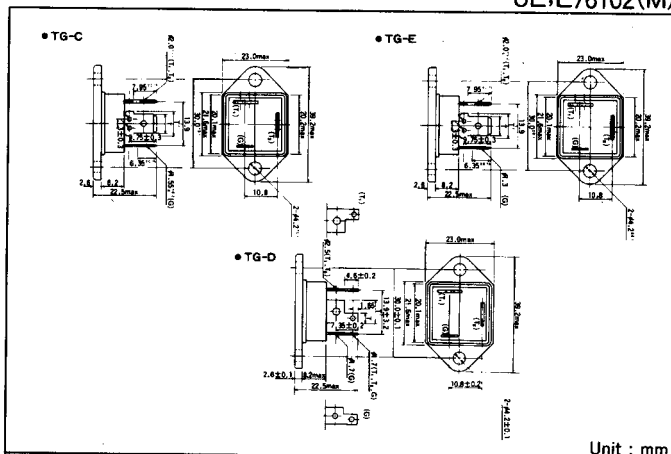


# TRIAC (ISOLATED TYPE)

## TG16C/E/D

TG16C/E/D are isolated mould triac suitable for wide range of applications like copier, Microwave oven, solid state switch, motor control, light control and heater control.

- $I_T$  (RMS) 6A
- High Surge Capability 160A
- Isolated Mounting (AC2500V)
- Tab Terminals



UL:E76102(M)

Unit : mm

### Maximum Ratings

C, E and D type have same electrical characteristics

| Symbol    | Item                              | TG16C40 | TG16C60 | Unit |
|-----------|-----------------------------------|---------|---------|------|
| $V_{DRM}$ | Repetitive Peak off-State Voltage | 400     | 600     | V    |

| Symbol      | Item                                      | Conditions                                                                                                        | Ratings         | Unit                       |
|-------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------|
| $I_T$ (RMS) | R.M.S On-State Current                    | $T_c = 83^\circ\text{C}$                                                                                          | 16              | A                          |
| $I_{TSM}$   | Surge On-State Current                    | One cycle, 50/60Hz, peak, non-repetitive                                                                          | 140/160         | A                          |
| $I^2t$      | $I^2t$                                    | Value for one cycle of surge current                                                                              | 106             | $\text{A}^2\text{S}$       |
| $P_{GM}$    | Peak Gate Power Dissipation               |                                                                                                                   | 10              | W                          |
| $P_{G(AV)}$ | Average Gate Power Dissipation            |                                                                                                                   | 1               | W                          |
| $I_{GM}$    | Peak Gate Current                         |                                                                                                                   | 3               | A                          |
| $V_{GM}$    | Peak Gate Voltage                         |                                                                                                                   | 10              | V                          |
| $di/dt$     | Critical Rate of Rise of On-State Current | $I_G = 100\text{mA}$ , $T_j = 25^\circ\text{C}$ , $V_D = \frac{1}{2} V_{DRM}$ , $di_G/dt = 1\text{A}/\mu\text{s}$ | 50              | $\text{A}/\mu\text{s}$     |
| $T_j$       | Operating Junction Temperature            |                                                                                                                   | $-25 \sim +125$ | $^\circ\text{C}$           |
| $T_{stg}$   | Storage Temperature                       |                                                                                                                   | $-40 \sim +125$ | $^\circ\text{C}$           |
| $V_{iso}$   | Isolation Breakdown Voltage (R.M.S)       | A.C. 1minute                                                                                                      | 2500            | V                          |
|             | Mounting Torque                           | Recommended Value $10\text{kgf}\cdot\text{cm}$                                                                    | 12              | $\text{kgf}\cdot\text{cm}$ |
|             | Mass                                      | Excluding bolt, nut and wrapping material                                                                         | 23              | g                          |

### Electrical Characteristics

| Symbol        | Item                                                        | Conditions                                                                                                                            | Ratings | Unit                      |
|---------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------|
| $I_{DRM}$     | Repetitive Peak Off-State Current, max.                     | at $V_{DRM}$ , single phase, half wave, $T_j = 125^\circ\text{C}$                                                                     | 3       | mA                        |
| $V_{TM}$      | Peak On-State Voltage, max.                                 | $(\sqrt{2} \times I_T \text{ (RMS)})$ $T_j = 25^\circ\text{C}$ Inst. measurement                                                      | 1.5     | V                         |
| $I_{GT1}^+$   | Gate Trigger Current, max.                                  | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 50      | mA                        |
| $I_{GT1}^-$   |                                                             | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 50      |                           |
| $I_{GT3}^+$   |                                                             |                                                                                                                                       | —       |                           |
| $I_{GT3}^-$   |                                                             | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 50      |                           |
| $V_{GT1}^+$   | Gate Trigger Voltage, max.                                  | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 3       | V                         |
| $V_{GT1}^-$   |                                                             | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 3       |                           |
| $V_{GT3}^+$   |                                                             |                                                                                                                                       | —       |                           |
| $V_{GT3}^-$   |                                                             | $T_j = 25^\circ\text{C}$ , $I_T = 1\text{A}$ , $V_D = 6\text{V}$                                                                      | 3       |                           |
| $V_{GD}$      | Non-Trigger Gate Voltage, min.                              | $T_j = 125^\circ\text{C}$ , $V_D = \frac{1}{2} V_{DRM}$                                                                               | 0.2     | V                         |
| $t_{gt}$      | Turn On Time, max                                           | $I_T \text{ (RMS)}$ , $I_G = 100\text{mA}$ , $V_D = \frac{1}{2} V_{DRM}$ , $T_j = 25^\circ\text{C}$ $di_G/dt = 1\text{A}/\mu\text{s}$ | 10      | $\mu\text{s}$             |
| $dv/dt$       | Critical Rate of Rise of On-State Voltage, min.             | $T_j = 125^\circ\text{C}$ , $V_D = \frac{2}{3} V_{DRM}$ , Exponential wave.                                                           | 50      | $\text{V}/\mu\text{s}$    |
| $(dv/dt)_c$   | Critical Rate of Rise off-State Voltage at commutation, min | $T_j = 125^\circ\text{C}$ , $(di/dt)_c = 8\text{A}/\text{ms}$ , $V_D = \frac{2}{3} V_{DRM}$                                           | 6       | $\text{V}/\mu\text{s}$    |
| $I_H$         | Holding Current, typ.                                       | $T_j = 25^\circ\text{C}$                                                                                                              | 30      | mA                        |
| $R_{th(j-c)}$ | Thermal Impedance, max.                                     | Junction to case                                                                                                                      | 2.0     | $^\circ\text{C}/\text{W}$ |