

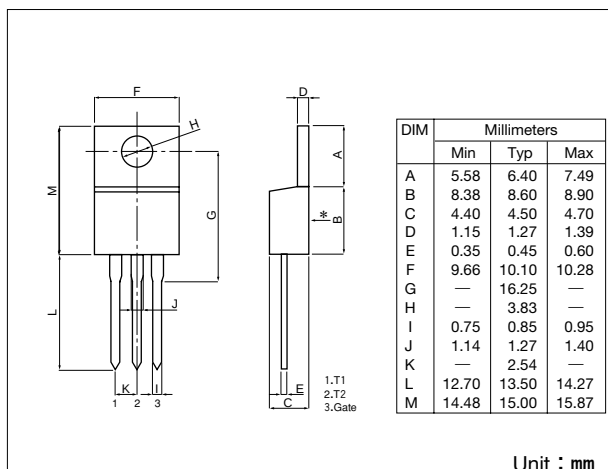
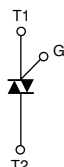
# TRIAC (NON-ISOLATED TYPE)

## TMG10C60

[TOP](#)


TMG10C60 are non-isolated triac suitable for wide range of applications like copier, microwave oven, solid state switch, motor control, light and heater control.

- $I_{T(RMS)}$  10A
- High surge capability 110A
- Non-isolated type



### Maximum Ratings

( $T_j=25^\circ\text{C}$  unless otherwise specified)

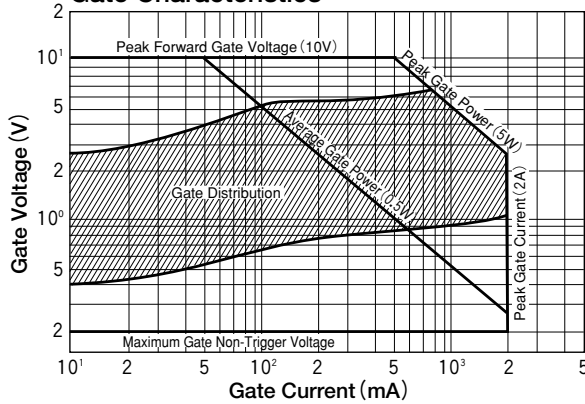
| Symbol    | Item                              | Ratings  | Unit |
|-----------|-----------------------------------|----------|------|
|           |                                   | TMG10C60 |      |
| $V_{DRM}$ | Repetitive Peak Off-State Voltage | 600      | V    |

| Symbol       | Item                           | Conditions                                 | Ratings         | Unit                 |
|--------------|--------------------------------|--------------------------------------------|-----------------|----------------------|
| $I_{T(RMS)}$ | R.M.S. On-State Current        | $T_c=103^\circ\text{C}$                    | 10              | A                    |
| $I_{TSM}$    | Surge On-State Current         | One cycle, 50Hz/60Hz, peak, non-repetitive | 100/110         | A                    |
| $I^2t$       | $I^2t$                         | 1ms~10ms                                   | 50              | $\text{A}^2\text{S}$ |
| $P_{GM}$     | Peak Gate Power Dissipation    |                                            | 5               | W                    |
| $P_{G(AV)}$  | Average Gate Power Dissipation |                                            | 0.5             | W                    |
| $I_{GM}$     | Peak Gate Current              |                                            | 2               | A                    |
| $V_{GM}$     | Peak Gate Voltage              |                                            | 10              | V                    |
| $T_j$        | Operating Junction Temperature |                                            | $-40$ to $+125$ | $^\circ\text{C}$     |
| $T_{stg}$    | Storage Temperature            |                                            | $-40$ to $+125$ | $^\circ\text{C}$     |
|              | Mass                           |                                            | 2               | g                    |

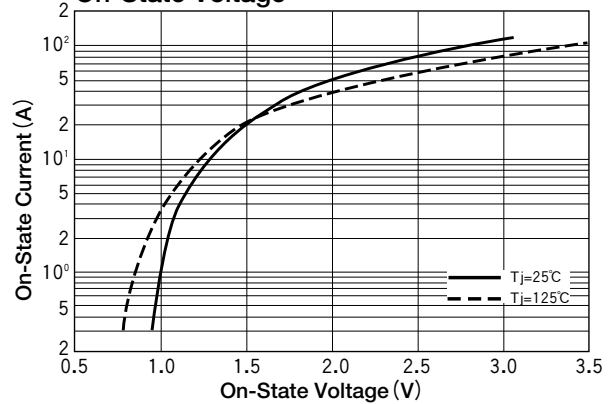
### Electrical Characteristics

| Symbol        | Item                                                   | Conditions                                                                     | Ratings |      |      | Unit                      |
|---------------|--------------------------------------------------------|--------------------------------------------------------------------------------|---------|------|------|---------------------------|
|               |                                                        |                                                                                | Mon.    | Typ. | Max. |                           |
| $I_{DRM}$     | Reptitive Peak Off-State Current                       | $V_D=V_{DRM}$ , Single phase, half wave, $T_j=125^\circ\text{C}$               |         |      | 2    | mA                        |
| $V_{TM}$      | Peak On-State Voltage                                  | $I_T=15\text{A}$ , Inst. measurement                                           |         |      | 1.4  | V                         |
| $I_{GT1}^+$   | Gate Trigger Current                                   | $V_D=6\text{V}$ , $R_L=10\Omega$                                               |         |      | 30   | mA                        |
| $I_{GT1}^-$   |                                                        |                                                                                |         |      | 30   |                           |
| $I_{GT3}^+$   |                                                        |                                                                                |         |      | —    |                           |
| $I_{GT3}^-$   |                                                        |                                                                                |         |      | 30   |                           |
| $V_{GT1}^+$   | Gate Trigger Voltage                                   | $V_D=6\text{V}$ , $R_L=10\Omega$                                               |         |      | 1.5  | V                         |
| $V_{GT1}^-$   |                                                        |                                                                                |         |      | 1.5  |                           |
| $V_{GT3}^+$   |                                                        |                                                                                |         |      | —    |                           |
| $V_{GT3}^-$   |                                                        |                                                                                |         |      | 1.5  |                           |
| $V_{GD}$      | Non-Trigger Gate Voltage                               | $T_j=125^\circ\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$                             | 0.2     |      |      | V                         |
| $(dv/dt)_c$   | Critical Rate of Rise off-State Voltage at commutation | $T_j=125^\circ\text{C}$ , $(di/dt)_c=-5\text{A/ms}$ , $V_D=\frac{2}{3}V_{DRM}$ | 10      |      |      | $\text{V}/\mu\text{s}$    |
| $I_H$         | Holding Current                                        |                                                                                |         | 20   |      | mA                        |
| $R_{th(j-c)}$ | Thermal Impedance                                      | Junction to case                                                               |         |      | 1.8  | $^\circ\text{C}/\text{W}$ |

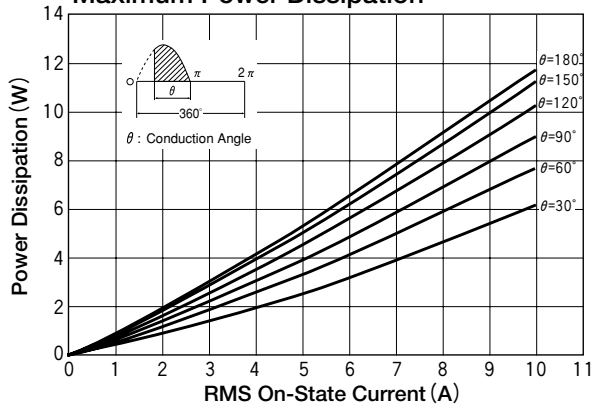
### Gate Characteristics



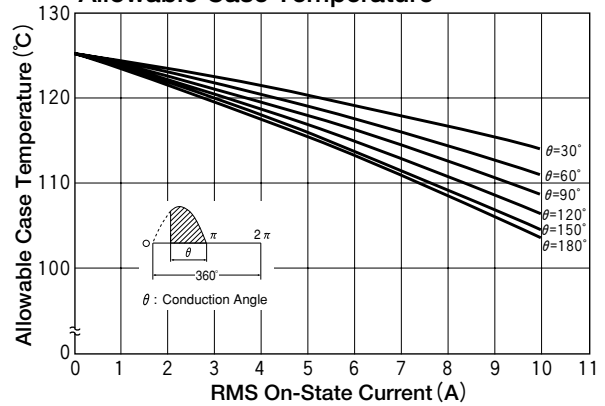
### On-State Voltage



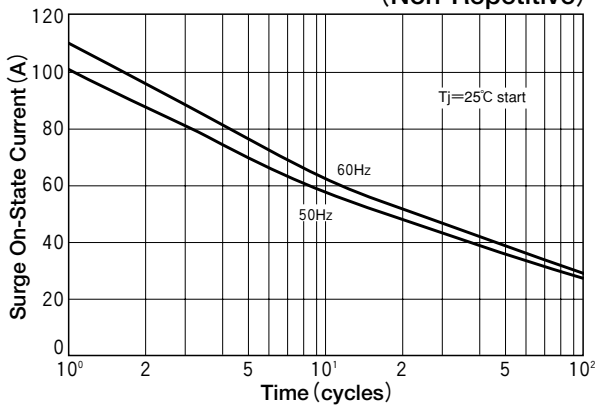
### On State Current vs. Maximum Power Dissipation



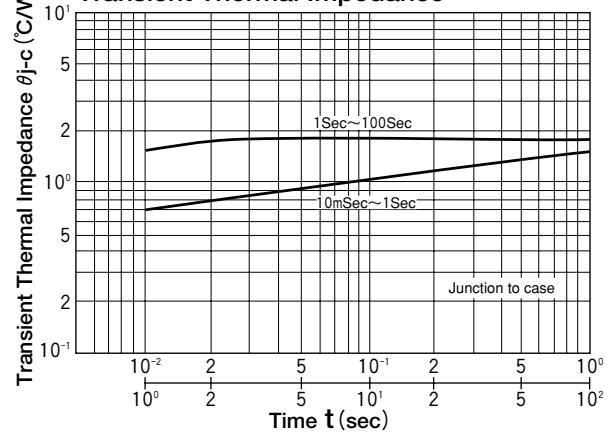
### On State Current vs. Allowable Case Temperature



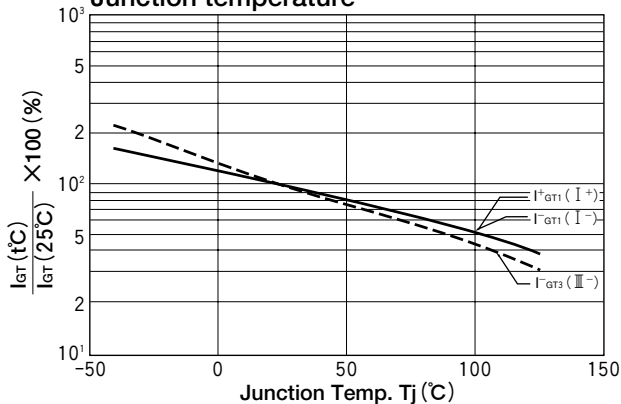
### Surge On-State Current Rating (Non-Repetitive)



### Transient Thermal Impedance



### Gate trigger current vs. Junction temperature



### Gate trigger voltage vs. Junction temperature

