

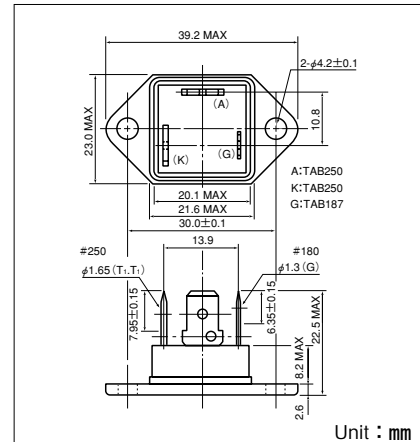
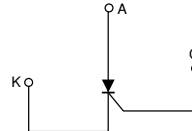
# THYRISTOR MODULE (ISOLATED MOLD TYPE)

## SG25AA

UL:E76102(M)

SG25AA is an isolated molded thyristor which is suitable for a wide range of industrial and home electronics uses. SG25AA uses highly reliable glass passivation.

- $I_{T(AV)}=25A$
- high Surge Capability
- Tab terminals for easy wiring.



Unit : mm

### Maximum Ratings

| Symbol    | Item                                | Ratings  |          |          | Unit |
|-----------|-------------------------------------|----------|----------|----------|------|
|           |                                     | SG25AA20 | SG25AA40 | SG25AA60 |      |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage     | 200      | 400      | 600      | V    |
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage | 240      | 480      | 720      | V    |
| $V_{DRM}$ | Repetitive Peak Off-State Voltage   | 200      | 400      | 600      | V    |

| Symbol       | Item                                      | Conditions   | Ratings     | Unit             |
|--------------|---|--|-------------|------------------|
| $I_{T(AV)}$  | Average On-State Current                  | Single phase, half wave, 180° conduction, $T_c : 70^\circ C$   | 25          | A                |
| $I_{T(RMS)}$ | R.M.S. On-State Current                   | Single phase, half wave, 180° conduction, $T_c : 70^\circ C$   | 39          | A                |
| $I_{TSM}$    | Surge On-State Current                    | 1/2 cycle, 50Hz/60Hz, peak value, non-repetitive               | 450/500     | A                |
| $I^2t$       | $I^2t$                                    | 2~10ms   | 1040        | A <sup>2</sup> S |
| PGM          | Peak Gate Power Dissipation               |  | 10          | W                |
| $P_G(AV)$    | Average Gate Power Dissipation            |  | 1           | W                |
| $I_{FGM}$    | Peak Gate Current                         |  | 3           | A                |
| $V_{FGM}$    | Peak Gate Voltage(Forward)                |  | 10          | V                |
| $V_{RGM}$    | Peak Gate Voltage(Reverse)                |  | 5           | V                |
| $di/dt$      | Critical Rate of Rise of On-State Current | $I_G=100mA, T_j=25^\circ C, V_D=1/2 V_{DRM}, dl_G/dt=1A/\mu s$ | 100         | A/ $\mu s$       |
| $V_{iso}$    | Isolation Breakdown Voltage (R.M.S.)      | A.C. 1 minute  | 2500        | V                |
| $T_j$        | Operating Junction Temperature            |  | -40 to +125 | °C               |
| $T_{stg}$    | Storage Temperature                       |  | -40 to +125 | °C               |
|              | Mounting Torque (M4)                      | Recommended Value 1.0-1.4 (10-14)                              | 1.5 (15)    | N·m<br>(kgf·cm)  |
|              | Mass                                      |  | 23          | g                |

### Electrical Characteristics

| Symbol          | Item   | Conditions  | Ratings | Unit       |
|-----------------|--|---|---------|------------|
| $I_{DRM}$       | Repetitive Peak Off-State Current, max.          | at $V_{DRM}$ , single phase, half wave, $T_j=125^\circ C$               | 5       | mA         |
| $I_{RRM}$       | Repetitive Peak Reverse Current, max.            | at $V_{DRM}$ , single phase, half wave, $T_j=125^\circ C$               | 5       | mA         |
| $V_{TM}$        | Peak On-State Voltage, max.                      | On-State Current 78A, $T_j=25^\circ C$ Inst. measurement                | 1.40    | V          |
| $I_{GT}/V_{GT}$ | Gate Trigger Current/Voltage, max.               | $T_j=25^\circ C, I_T=1A, V_D=6V$  | 40/3    | mA/V       |
| $V_{GD}$        | Non-Trigger Gate, Voltage, min.                  | $T_j=125^\circ C, V_D=1/2 V_{DRM}$                                      | 0.2     | V          |
| tgt             | Turn On Time, max.                               | $I_T=25A, I_G=100mA, T_j=25^\circ C, V_D=1/2 V_{DRM}, dl_G/dt=1A/\mu s$ | 10      | $\mu s$    |
| $dv/dt$         | Critical Rate of Rise of Off-State Voltage, min. | $T_j=125^\circ C, V_D=2/3 V_{DRM}$ , Exponential wave.                  | 100     | V/ $\mu s$ |
| $I_H$           | Holding Current, typ.                            | $T_j=25^\circ C$  | 30      | mA         |
| $R_{th(j-c)}$   | Thermal Impedance, max.                          | Junction to case  | 1.6     | °C/W       |

