

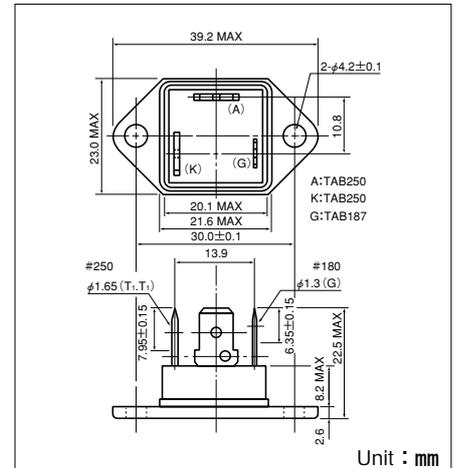
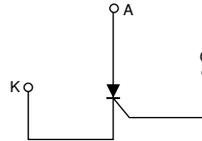
THYRISTOR MODULE (ISOLATED MOLD TYPE)

SG16AA

UL:E76102(M)

SG16AA is an isolated molded thyristor which is suitable for a wide range of industrial and home electronics uses. SG16AA uses highly reliable glass passivation.

- $I_{T(AV)}=16A$
- high Surge Capability
- Tab terminals for easy wiring.



Maximum Ratings

| Symbol | Item | Ratings | | | Unit |
|--------|-------------------------------------|----------|----------|----------|------|
| | | SG16AA20 | SG16AA40 | SG16AA60 | |
| VRRM | Repetitive Peak Reverse Voltage | 200 | 400 | 600 | V |
| VRSM | Non-Repetitive Peak Reverse Voltage | 240 | 480 | 720 | V |
| VDRM | 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, $T_c : 80^\circ\text{C}$ | 16 | A |
| $I_{T(RMS)}$ | R.M.S. On-State Current | Single phase, half wave, 180° conduction, $T_c : 80^\circ\text{C}$ | 25 | A |
| I_{TSM} | Surge On-State Current | 1/2 cycle, 50Hz/60Hz, peak value, non-repetitive | 220/250 | A |
| I^2t | I^2t | 2~10ms | 260 | A ² S |
| P _{GM} | 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 | $I_G=100\text{mA}$, $T_J=25^\circ\text{C}$, $V_D=1/2V_{DRM}$, $dI_G/dt=1\text{A}/\mu\text{s}$ | 100 | A/ μs |
| V _{ISO} | Isolation Breakdown Voltage (R.M.S.) | A.C. 1minute | 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 (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, $T_J=125^\circ\text{C}$ | 3 | mA |
| I _{RRM} | Repetitive Peak Reverse Current, max. | at V_{DRM} , single phase, half wave, $T_J=125^\circ\text{C}$ | 3 | mA |
| V _{TM} | Peak On-State Voltage, max. | On-State Current 50A, $T_J=25^\circ\text{C}$ Inst. measurement | 1.50 | V |
| I _{GT} /V _{GT} | Gate Trigger Current/Voltage, max. | $T_J=25^\circ\text{C}$, $I_T=1\text{A}$, $V_D=6\text{V}$ | 40/3 | mA/V |
| V _{GD} | Non-Trigger Gate, Voltage. min. | $T_J=125^\circ\text{C}$, $V_D=1/2V_{DRM}$ | 0.2 | V |
| t _{gt} | Turn On Time, max. | $I_T=16\text{A}$, $I_G=100\text{mA}$, $T_J=25^\circ\text{C}$, $V_D=1/2V_{DRM}$, $dI_G/dt=1\text{A}/\mu\text{s}$ | 10 | μs |
| dv/dt | Critical Rate of Rise of Off-State Voltage, min. | $T_J=125^\circ\text{C}$, $V_D=2/3V_{DRM}$, Exponential wave. | 100 | V/ μs |
| 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 | °C/W |

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