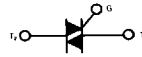
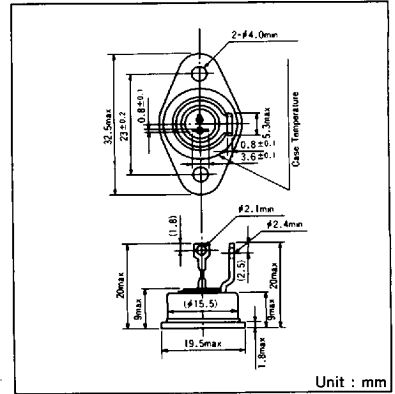


# SSG16C-Y

For general A.C. power control applications such as A.C. switches, light controls, speed controls and heater controls etc.

- General A.C. power use
- $I_{T(RMS)} = 16A$
- High voltage up to 1200V
- High surge current of 160A
- Package types; diamond



Unit : mm

### Maximum Ratings

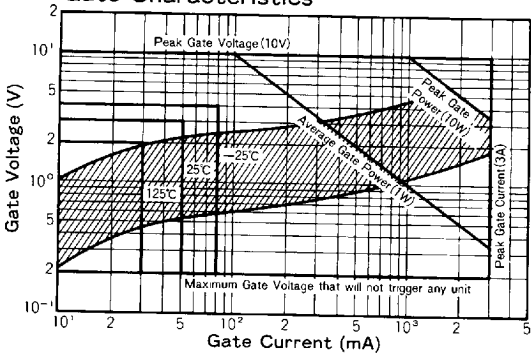
| Symbol    | Item                              | SSG16C40Y | SSG16C60Y | SSG16C80Y | SSG16C100Y | SSG16C120Y | Unit |
|-----------|-----------------------------------|-----------|-----------|-----------|------------|------------|------|
| $V_{DRM}$ | Repetitive Peak off-State Voltage | 400       | 600       | 800       | 1000       | 1200       | V    |

| Symbol       | Item                                      | Conditions   | Ratings  | Unit             |
|--------------|---|--|----------|------------------|
| $I_{T(RMS)}$ | R.M.S On-State Current                    | $T_c = 82^\circ C$   | 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      | A <sup>2</sup> 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 | $I_G = 100mA, T_j = 25^\circ C, V_D = \frac{1}{2} V_{DRM}, di_G/dt = 1A/\mu s$ | 50       | A/ $\mu s$       |
| $V_{ISO}$    | Isolation Breakdown Voltage(R.M.S)        | A.C. 1minute   | 2500     | V                |
| $T_j$        | Operating Junction Temperature            |  | -25~+125 | $^\circ C$       |
| $T_{stg}$    | Storage Temperature                       |  | -25~+125 | $^\circ C$       |
|              | Mounting Torque                           | Recommended Value 8kgf·cm  | 10       | kgf·cm           |
|              | Mass                                      | Excluding bolt, nut and wrapping material                                      | 10.3     | g                |

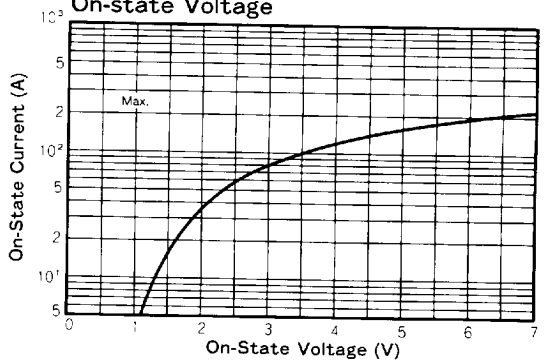
### Electrical Characteristics

| Symbol        | Item  | Conditions  | Ratings | Unit         |
|---------------|---|---|---------|--------------|
| $I_{DRM}$     | Repetitive Peak Off-State Current, max.                     | at $V_{DRM}$ , single phase, half wave, $T_j = 125^\circ C$                               | 3       | mA           |
| $V_{TM}$      | Peak On-State Voltage, max.                                 | $I_T = 25A, T_j = 125^\circ C$ Inst. measurement  | 1.7     | V            |
| $I_{GT1}^+$   | Gate Trigger Current, max.                                  | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 50      | mA           |
| $I_{GT1}^-$   |   | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 50      |              |
| $I_{GT3}^+$   |   |   | —       |              |
| $I_{GT3}^-$   |   | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 50      |              |
| $V_{GT1}^+$   | Gate Trigger Voltage, max.                                  | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 3       | V            |
| $V_{GT1}^-$   |   | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 3       |              |
| $V_{GT3}^+$   |   |   | —       |              |
| $V_{GT3}^-$   |   | $T_j = 25^\circ C, I_T = 1A, V_D = 6V$  | 3       |              |
| $V_{GD}$      | Non-Trigger Gate Voltage, min.                              | $T_j = 125^\circ C, V_D = \frac{1}{2} V_{DRM}$  | 0.2     | V            |
| $t_{gt}$      | Turn On Time, max   | $I_T = 16A, I_G = 100mA, V_D = \frac{1}{2} V_{DRM}, T_j = 25^\circ C, di_G/dt = 1A/\mu s$ | 10      | $\mu s$      |
| $dv/dt$       | Critical Rate of Rise of On-State Voltage, min.             | $T_j = 125^\circ C, V_D = \frac{2}{3} V_{DRM}$ , Exponential wave.                        | 50      | V/ $\mu s$   |
| $\{dv/dt\}_c$ | Critical Rate of Rise off-State Voltage at commutation, min | $T_j = 125^\circ C, \{di/dt\}_c = 8A/ms, V_D = \frac{2}{3} V_{DRM}$                       | 6       | 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  | 1.8     | $^\circ C/W$ |

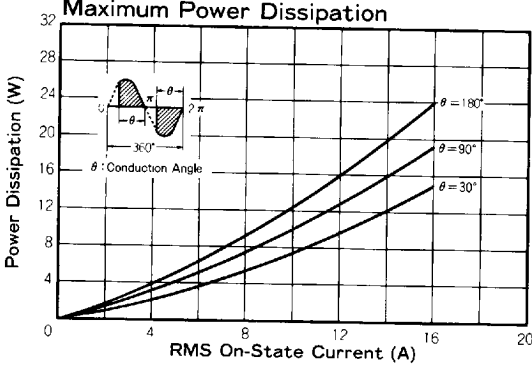
Gate Characteristics



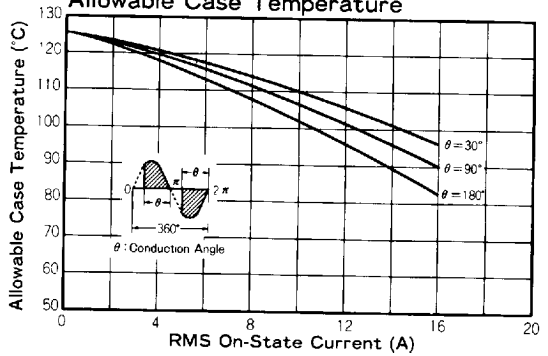
On-state Voltage



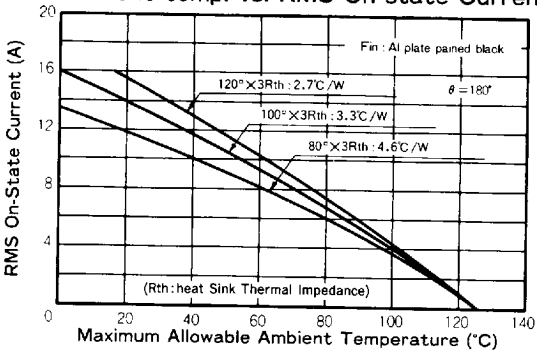
On state Current vs. Maximum Power Dissipation



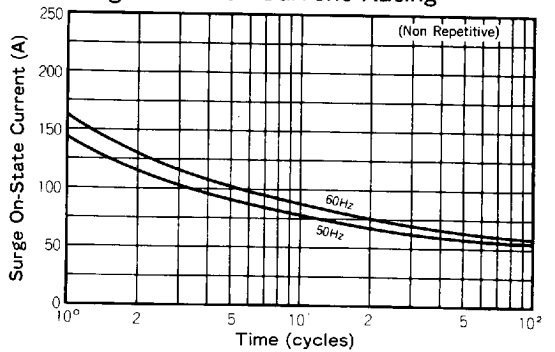
On state Current vs. Allowable Case Temperature



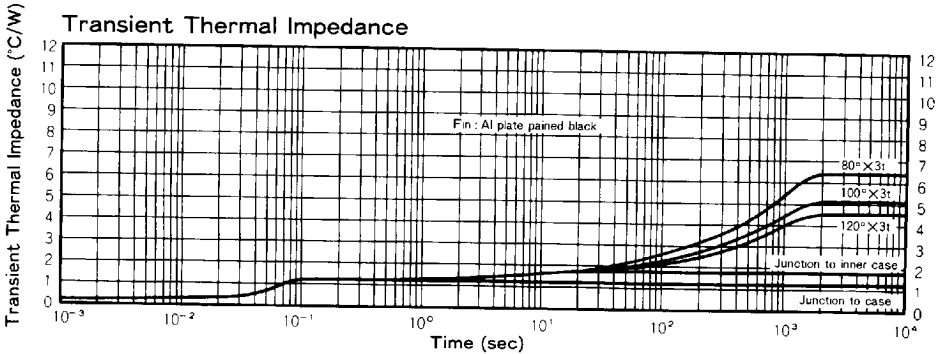
Ambient temp. vs. RMS On state Current



Surge On state Current Rating



Transient Thermal Impedance



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SANSHA ELECTRIC

TRIAC