## C106 Series

File Number **1005**

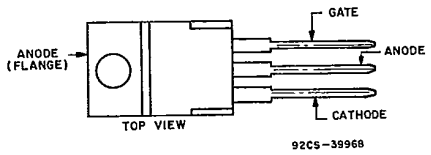
# 4-A Sensitive-Gate Silicon Controlled Rectifiers

For Power-Switching and Control Application

**Features:**

- *3.5-A(rms) on-state current ratings*
- *20-A peak surge capability*
- *Glass-passivated chip for stability*
- *Formed-lead options available*

**TERMINAL DESIGNATIONS**




**JEDEC TO-220AB**

The RCA-C106 series of sensitive-gate silicon controlled rectifiers are designed for switching ac and dc currents. The types within the series differ in their voltage ratings; the voltage ratings are identified by suffix letters in type designations.

These SCR's have microampere gate-current requirements which permit operation with low-level logic circuits. They can be used for lighting, power-switching, and motor-speed controls, and for gate-current amplification for driving large SCR's.

All types in the series utilize the JEDEC-TO-202AB (RCA VERSATAB) plastic package.

**MAXIMUM RATINGS,** *Absolute-Maximum Values:*

| | C106F C106A C106B C106C C106D C106E C106M C106S C106N | |
|---|---|---|
| $V_{RRM}$: $R_{GK}$ = 1000 Ω, $T_C$ = -40 to 110°C ..... | 50 100 200 300 400 500 600 700 800 | V |
| $V_{DRM}$ $R_{GK}$ = 1000 Ω, $T_C$ = -40 to 110°C ..... | | |
| $I_{T(AV)}$ ($T_C$ = 45°C) ..... | 2.2 | A |
| $I_{T(RMS)}$ ($T_C$ = 45°C) ..... | 3.5 | A |
| $I_{T(DC)}$ ($T_C$ = 70°C) ..... | 2.6 | A |
| $I_{TSM}$: For one cycle of applied principal voltage, $T_C$ = 45°C | | |
| 60 Hz (sinusoidal) ..... | 20 | A |
| 50 Hz (sinusoidal) ..... | 18.5 | A |
| $I_{GM}$ (t = 10 μs) ..... | 0.2 | A |
| $V_{GRM}$ ..... | 6 | V |
| di/dt: $V_{DM}$ = $V_{DRM}$, $I_G$ = 1 mA, $t_r$ = 0.5 μs, $T_C$ = 110°C ..... | 100 | A/μs |
| $I^2t$ [At $T_C$ shown for $I_{T(RMS)}$]: t = 10 ms ..... | 1.77 | $A^2s$ |
| 8.33 ms ..... | 1.67 | $A^2s$ |
| 1 ms ..... | 0.82 | $A^2s$ |
| $P_{GM}$ (For 10 μs max.) ..... | 0.5 | W |
| $P_{G(AV)}$ (Averaging time = 10 ms max.) ..... | 0.1 | W |
| $T_{stg}$ ..... | -40 to +150 | °C |
| $T_C$ ..... | -40 to +110 | °C |
| $T_T$ (During soldering for 10 s max.) ..... | 250 | °C |