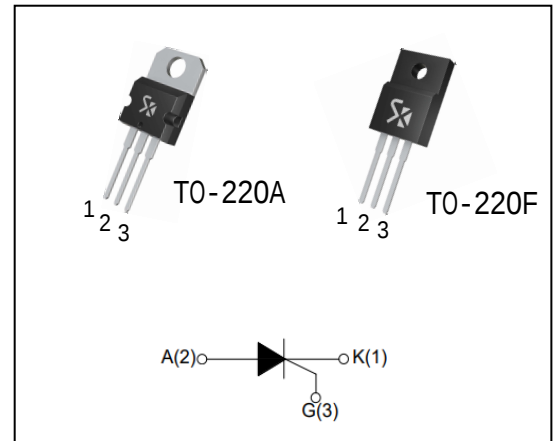


## Silicon Controlled Rectifier

### Features

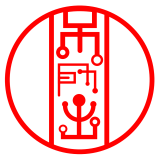
- With independent intellectual property rights of single-side grooving technology, table glass passivation process;
- Multilayer metallized electrode on the back;
- High blocking voltage and high temperature stability;



### MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified

| PARAMETER                                  | SYMBOL      | Conditions                                                   | Limits  | Units                |
|--------------------------------------------|-------------|--------------------------------------------------------------|---------|----------------------|
| RMS On-state Current                       | $I_{T(AV)}$ | BCA $T_c=80^{\circ}\text{C}$<br>BCB $T_c=90^{\circ}\text{C}$ | 16      | A                    |
| Non repetitive surge peak on-state current | $I_{TSM}$   | $F=50\text{HZ}$<br>$t=20\text{ms}$                           | 176     | A                    |
| $I^2t$ value for fusing                    | $I^2t$      | $t_p=10\text{ms}$                                            | 144     | $\text{A}^2\text{S}$ |
| Critical rate of rise of on-state current  | $di/dt$     | $T_j=125^{\circ}\text{C}$                                    | 50      | $\text{A/us}$        |
| Peak gate current                          | $I_{GM}$    | $t_p=20\text{us}$<br>$T_j=125^{\circ}\text{C}$               | 4       | A                    |
| Repetitive peak off-state voltage          | $V_{DRM}$   | $T_j=25^{\circ}\text{C}$                                     | 800     | V                    |
| Repetitive peak reverse voltage            | $V_{RRM}$   | $T_j=25^{\circ}\text{C}$                                     | 800     | V                    |
| Average gate power dissipation             | $P_{G(AV)}$ | $T_j=125^{\circ}\text{C}$                                    | 1       | W                    |
| Operating junction temperature range       | $T_j$       |                                                              | -40~150 | $^{\circ}\text{C}$   |
| Storage junction temperature range         | $T_{stg}$   |                                                              | -40~125 | $^{\circ}\text{C}$   |

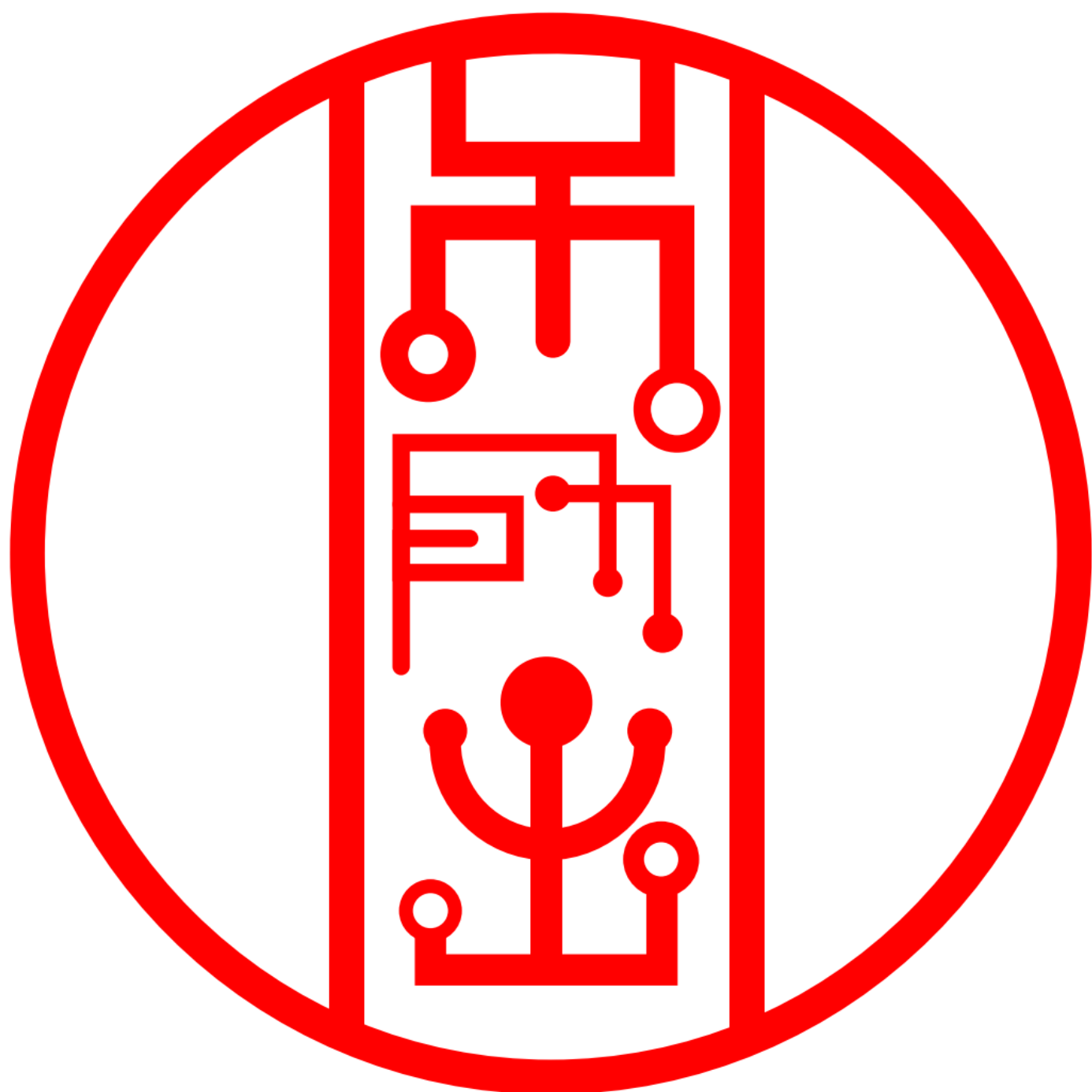


## ELECTRICAL CHARACTERISTICS ( $T_j=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Test Condition                                                  | MIN | TYPE | MAX | Unit             |
|-----------|-----------------------------------------------------------------|-----|------|-----|------------------|
| $I_{GT}$  | $V_D=12\text{V}, R_L=100\Omega$                                 | -   | -    | 30  | mA               |
| $V_{GT}$  |                                                                 | -   | -    | 1.5 | V                |
| $V_{GD}$  | $V_D=V_{DRM}, T_j=125^{\circ}\text{C}$                          | 0.2 | -    | -   | V                |
| $I_H$     | $I_T=0.5\text{A}$                                               | -   | -    | 60  | mA               |
| $I_L$     | $I_G=1.2I_{GT}$                                                 | -   | -    | 60  | mA               |
| dv/dt     | $V_D=2/3 \times V_{DRM}$ $T_j=125^{\circ}\text{C}$<br>Gate open | 500 | -    | -   | V/ $\mu\text{s}$ |
| (dv/dt)c  | $T_j=125^{\circ}\text{C}$                                       | 10  | -    | -   | mA               |

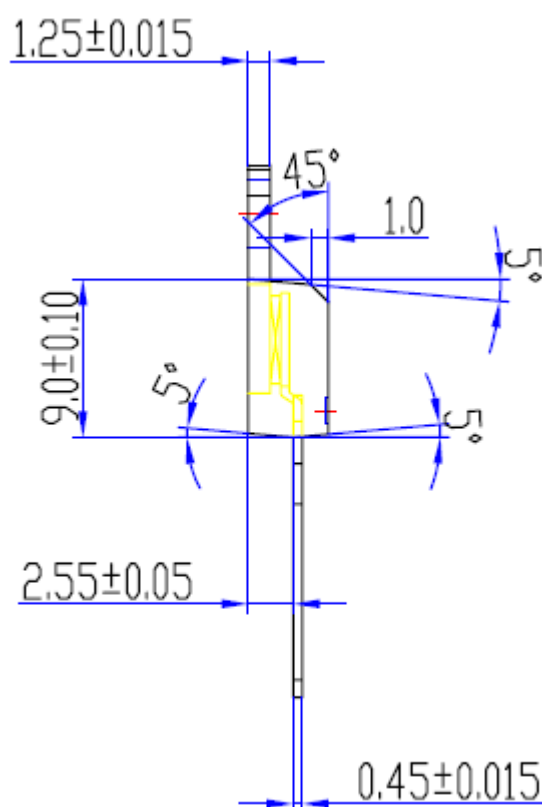
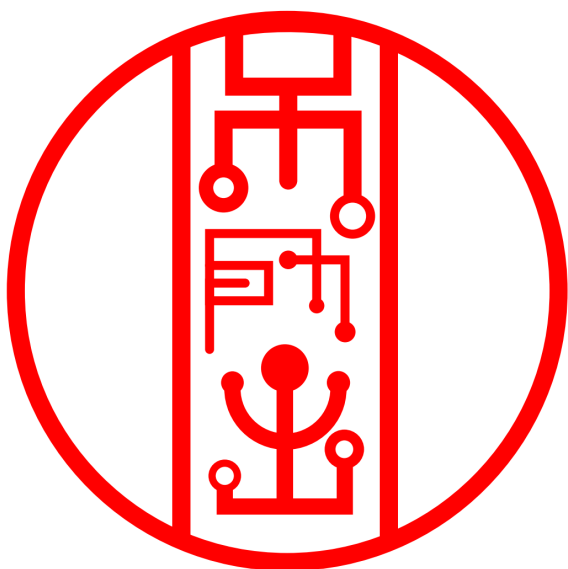
## STATIC CHARACTERISTICS

| Symbol        | Test Condition         |                    |                    | Value | Unit |    |
|---------------|------------------------|--------------------|--------------------|-------|------|----|
| $V_{TM}$      | Peak on-state voltage  | $I_{TM}=32A$       | $T_j=25^{\circ}C$  | MAX   | 1.5  | V  |
| $V_{T0}$      | Threshold voltage      |                    | $T_j=125^{\circ}C$ | MAX   | 0.87 | mΩ |
| Rd            | Slope resistance       |                    | $T_j=125^{\circ}C$ | MAX   | 14.6 | mΩ |
| $I_{DRM}$     | $V_D=V_{DRM}= V_{RRM}$ | $T_j=25^{\circ}C$  | MAX                | 5     | μA   |    |
| $I_{RRM}$     |                        | $T_j=125^{\circ}C$ |                    | 1     | mA   |    |
| $R_{th(j-c)}$ | junction to case(AC)   | BCA                |                    | 2.05  | °C/W |    |
|               |                        | BCB                |                    | 1.25  |      |    |



PACKAGE MECHANICAL DATA

TO-220A



PACKAGE MECHANICAL DATA

unit: mm ( $\pm 0.1$ )

