

## Fast Recovery Diode

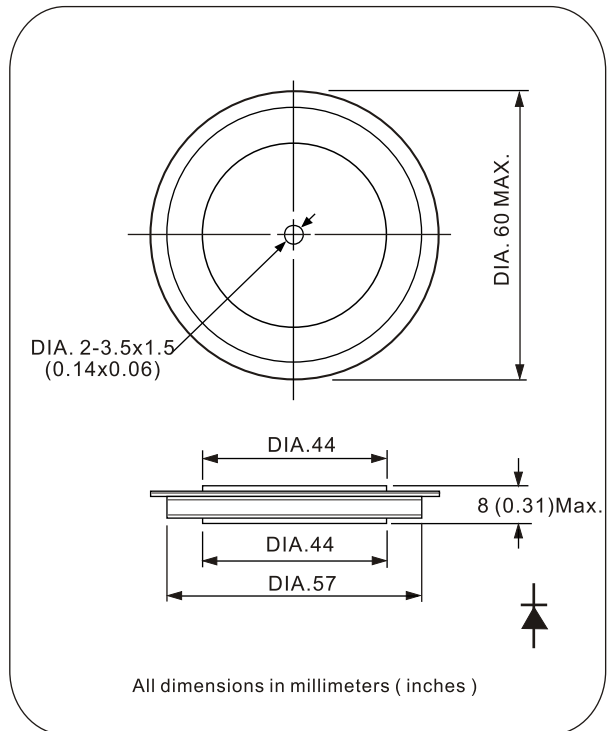
### Features

1. Voltage rating up to 600V
2. Typical application
  - AC motor control
  - Snubber diodes and free-wheeling diodes
  - U.P.S

### Ordering code

|          |             |          |           |          |            |
|----------|-------------|----------|-----------|----------|------------|
| <b>D</b> | <b>3000</b> | <b>F</b> | <b>xx</b> | <b>W</b> | <b>Trr</b> |
| (1)      | (2)         | (3)      | (4)       | (5)      | (6)        |

- (1) Disc types diodes  
 (2) Maximum average forward current , A  
 (3) For fast recovery diode  
 (4) Voltage code , V ( code x 100 = VRRM )  
 (5) peakage style : A , B , C , D , E  
 (6) trr



### Electrical Characteristics

| Symbol        | Parameter                            | Condition                                                                                                                | Value |      |      | Unit                       |
|---------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------|------|------|----------------------------|
|               |                                      |                                                                                                                          | Min.  | Type | Max. |                            |
| $I_{F(AV)}$   | Average forward current              | 180 half sine wave, 50HZ<br>Double side cooled, $T_C=85^\circ\text{C}$                                                   |       |      | 3000 | A                          |
| $V_{RRM}$     | Repetitive peak reverse voltage      | $V_{DRM} \& V_{RRM} \ t_p=10\text{ms}, T_j=150^\circ\text{C}$<br>$V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100\text{V}$ | 200   |      | 600  | V                          |
| $I_{RRM}$     | Repetitive peak current              | $V_{RM} = V_{RRM}$                                                                                                       |       |      | 50   | mA                         |
| $I_{FSM}$     | Surge on-state current               | Sine wave, 10ms without reverse voltage                                                                                  |       |      | 35   | KA                         |
| $I_t^2$       | $I_t^2$ for fusing coordination      |                                                                                                                          |       |      | 6100 | $\text{KA}^2\text{s}$      |
| $V_{TO}$      | Threshold voltage                    | $T_j=170^\circ\text{C}$                                                                                                  |       |      | 0.88 | V                          |
| $r_F$         | Forward slope resistance             |                                                                                                                          |       |      | 0.15 | $\text{m}\Omega$           |
| $t_{rr}$      | Reverse recovery time                | $T_j=170^\circ\text{C}$                                                                                                  |       |      | 1.0  | $\mu\text{s}$              |
| $Q_{rr}$      | Reverse change time                  |                                                                                                                          |       |      | 220  | $\mu\text{C}$              |
| $V_{FM}$      | Peak on-state voltage                | Forward current=6000A, $T_j=25^\circ\text{C}$                                                                            |       |      | 1.35 | V                          |
| $T_j$         | Operating junction temperature range |                                                                                                                          | - 40  |      | 170  | $^\circ\text{C}$           |
| $T_{stg}$     | Storage temperature range            |                                                                                                                          | - 40  |      | 170  | $^\circ\text{C}$           |
| $R_{th(j-c)}$ | Thermal resistance(junction to case) | Double side cooled                                                                                                       |       |      | 10   | $^\circ\text{C}/\text{KW}$ |
| $F_m$         | Mounting force                       |                                                                                                                          | 20    |      | 24   | KN                         |
| $W_t$         | Weright                              |                                                                                                                          |       | 150  |      | g                          |