

F10-XX00  
FAST RECOVERY  
DIODE

| SYMBOL               | CHARACTERISTIC                             | TEST CONDITIONS   | T <sub>J</sub> (°C) | VALUE |      |       | UNIT  |                                  |
|----------------------|--|---|---------------------|-------|------|-------|-------|----------------------------------|
|                      |  |   |                     | Min   | Type | Max   |       |                                  |
| I <sub>F(AV)</sub>   | Mean forward current                       | 180° half sine wave 50Hz<br>Double side cooled, T <sub>hs</sub> =55°C                   | 150                 |       |      | 1460  | A     |                                  |
| I <sub>F(AV)</sub>   | Mean forward current                       | 180° half sine wave 50Hz<br>Double side cooled, T <sub>hs</sub> =90°C                   | 150                 |       |      | 1053  | A     |                                  |
| V <sub>RRM</sub>     | Repetitive peak reverse voltage            | V <sub>RRM</sub> tp=10ms<br>V <sub>RSM</sub> = V <sub>DRM</sub> &V <sub>RRM</sub> +100V | 150                 | 200   |      | 1000  | V     |                                  |
| I <sub>RRM</sub>     | Repetitive peak current                    | at V <sub>RRM</sub>   | 150                 |       |      | 50    | mA    |                                  |
| I <sub>FSM</sub>     | Surge forward current                      | 10ms half sine wave   | 150                 |       |      | 13    | KA    |                                  |
| I <sup>2</sup> T     | I <sup>2</sup> T for fusing coordination   | V <sub>R</sub> =0.6V <sub>RRM</sub>   |                     |       |      |       | 850   | A <sup>2</sup> s*10 <sup>3</sup> |
| V <sub>FO</sub>      | Threshold voltage                          |   | 150                 |       |      | 1.20  | V     |                                  |
| r <sub>F</sub>       | Forward slop resistance                    |   |                     |       |      |       | 0.27  | mΩ                               |
| V <sub>FM</sub>      | Peak on-state voltage                      | I <sub>TM</sub> =3000A, F=18KN  | 150                 |       |      | 2.01  | V     |                                  |
| I <sub>m</sub>       | Reverse recovery current                   | I <sub>TM</sub> =800A, tp=1000μs,<br>-di/dt=40A/μs,<br>V <sub>R</sub> =50V              | 150                 |       |      | 75    | A     |                                  |
| t <sub>rr</sub>      | Reverse recovery time                      |   |                     |       |      |       | 2.2   | μs                               |
| Q <sub>rr</sub>      | Recovery charge                            |   |                     |       |      |       | 83    | 110                              |
| R <sub>th(j-h)</sub> | Thermal resistance<br>Junction to heatsink | At 180° sine double side cooled<br>Clamping force 18KN                                  |                     |       |      | 0.030 | °C /W |                                  |
| F <sub>m</sub>       | Mounting force                             |   |                     | 15    |      | 20    | KN    |                                  |
| T <sub>stg</sub>     | Stored temperature                         |   |                     | -40   |      | 160   | °C    |                                  |
| W <sub>t</sub>       | Weight                                     |   |                     |       |      | 360   | g     |                                  |
| Outline              | ZT39cT40                                   |   |                     |       |      |       |       |                                  |

Outline

