

# ZK300A-C FAST RECOVERY DIODE



### Features

Low forward voltage drop  
Soft recovery  
Hermetic metal cases with ceramic insulators

### Application

Inverters and choppers  
AC. motor control  
Snubber and free-wheeling diodes

|             |             |
|-------------|-------------|
| $I_{F(AV)}$ | 300A        |
| $V_{RRM}$   | 1100-2000V  |
| $I_{FSM}$   | 4.1KA       |
| $t_{rr}$    | 3.0 $\mu$ s |

| SYMBOL                                      |                 | PARAMETERS                                  | TESTING CONDITION  | $T_j(^{\circ}C)$  | VALUES    | UNIT              |
|---|-----------------|---|--|-------------------|-----------|-------------------|
| <b>Current<br/>Tatings</b>                  | $I_{F(AV)}$     | average forward current                     | 180° half sine wave 50Hz Double side cooled, $T_{hs}=117^{\circ}C$ | 150               | 300       | A                 |
|   | $I_{F(AV)}$     | average forward current                     | 180° half sine wave 50Hz Double side cooled, $T_{hs}=55^{\circ}C$  | 150               | 665       | A                 |
|   | $I_{FSM}$       | Surge forward current                       | 10ms half sine wave  | 150               | 4.1       | KA                |
|   | $I^2t$          | $I^2t$ for fusing coordination              | $VR=0.6VRRM$   | 150               | 90        | KA <sup>2</sup> S |
| <b>Characteristics</b>                      | $V_{RRM}$       | Repetitive peak reverse voltage             | $V_{RRM} tp=10ms$<br>$V_{RSM}= V_{RRM}+100V$                       | 150               | 1100-2000 | V                 |
|   | $I_{RRM}$       | Repetitive peak current                     | $V_{RM}= VRRM$   | 150               | Max.30    | Ma                |
|   | $V_{FM}$        | Peak on-state voltage                       | $I_{TM}=900A, F=9.0KN$   | 25                | Max.2.6   | V                 |
|   | $V_{FO}$        | Threshold voltage                           |  | 150               | Max.1.30  | V                 |
|   | $r_F$           | Forward slop resistance                     |  |                   | Max.0.42  | m $\Omega$        |
|   | $I_{rm}$        | Reverse recovery current                    |  | 100               | Typ.42    | A                 |
|   | $t_{rr}$        | Reverse recovery time                       | $I_{TM}=600A, t_p=1000\mu s,$<br>$di/dt=-20A/\mu s, Vr=50V$        |                   | Typ.3.0   | $\mu$ s           |
| $Q_{rr}$                                    | Recovery charge |   |  | Typ.63<br>Max.100 | $\mu$ c   |                   |
| <b>Thermal<br/>&amp;Mechanical<br/>Date</b> | $R_{th(j-h)}$   | Thermal resistance<br>Junction to heat sink | At 180° sine, double side cooled<br>mounting force 9.0KN           |                   | 0.065     | $^{\circ}C/W$     |
|   | $F_m$           | Mounting force                              |  |                   | 5.3-10    | KN                |
|   | $T_{stg}$       | Stored temperature                          |  |                   | -40-160   | $^{\circ}C$       |
|   | $W_t$           | Weight                                      |  |                   | 85        | g                 |

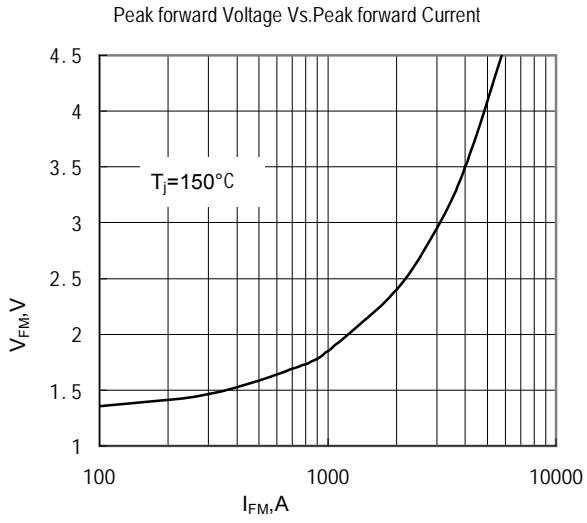


Fig.1

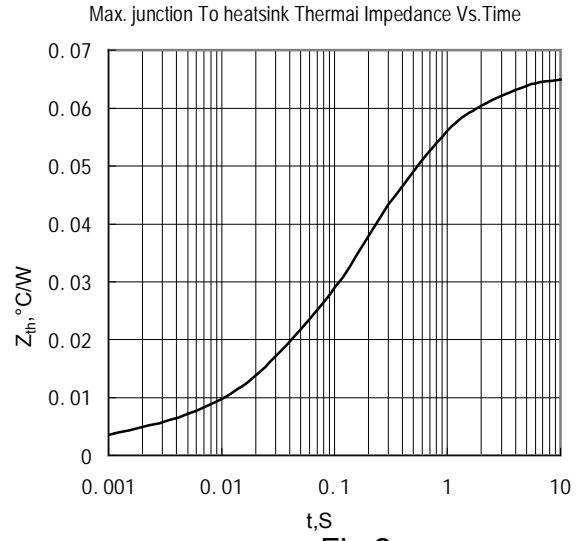


Fig.2

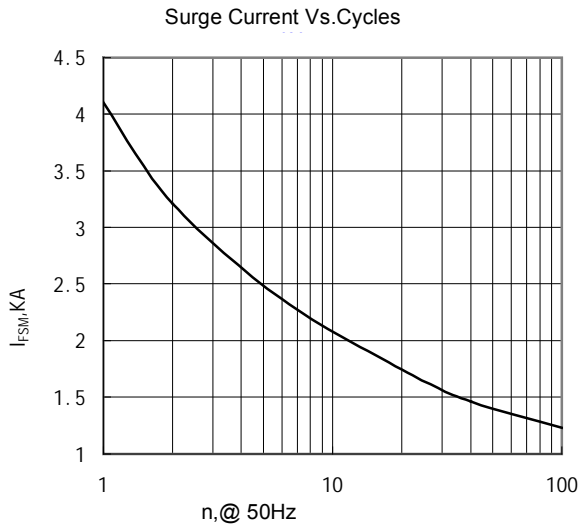


Fig.3

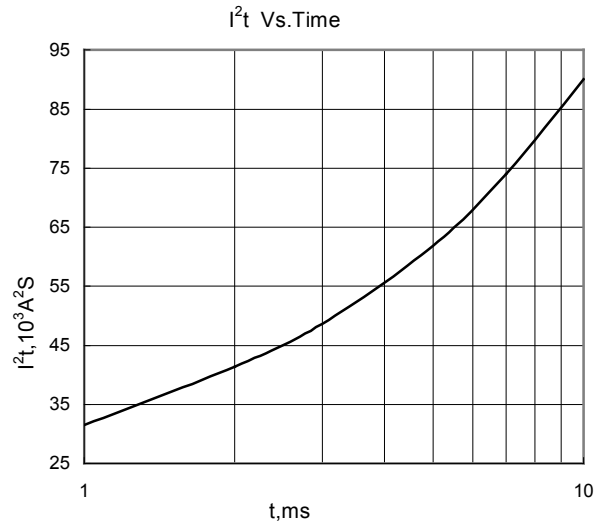
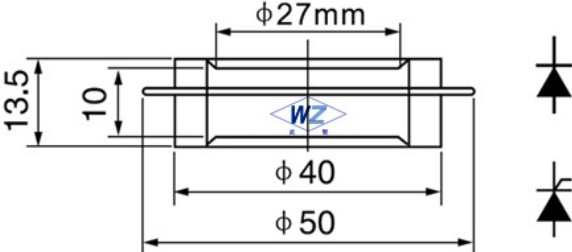


Fig.4

Dimensions:

C2



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## Wuhan Wuzheng Rectifier Co., Ltd

**Add:** NO. 73 Gaoxin Five Road, East Lake New Technology Development Zone, Wuhan City, Hubei province.

**Tel :** 86-27-87001995

**Fax:** 86-27-87180920

**Email:** info@techele.com

**Web:** www.techele.com/en

cn-techele.en.alibaba.com