

## G76KKE

1

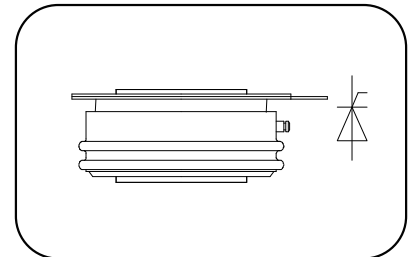
## Features:

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses

## Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

$I_{T(AV)}$       **2500A**  
 $V_{DRM}/V_{RRM}$     **800~1800V**  
 $t_q$               **25~40μs**  
 $I_{TSM}$            **27KA**



| SYMBOL                 | CHARACTERISTIC                                                       | TEST CONDITIONS                                                                               | $T_j(^{\circ}C)$ | VALUE |      |       | UNIT              |
|------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|-------|------|-------|-------------------|
|                        |                                                                      |                                                                                               |                  | Min   | Type | Max   |                   |
| $I_{T(AV)}$            | Mean on-state current                                                | 180° half sine wave 50Hz<br>Double side cooled, $T_{hs}=55^{\circ}C$                          | 115              |       |      | 2500  | A                 |
| $V_{DRM}$<br>$V_{RRM}$ | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | $V_{DRM} \& V_{RRM}$ , $t_p=10ms$<br>$V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$         | 115              | 800   |      | 1800  | V                 |
| $I_{DRM}$<br>$I_{RRM}$ | Repetitive peak current                                              | $V_D = V_{DRM}$<br>$V_R = V_{RRM}$                                                            | 115              |       |      | 200   | mA                |
| $I_{TSM}$              | Surge on-state current                                               | 10ms half sine wave                                                                           | 115              |       |      | 27    | KA                |
| $I^2t$                 | $I^2t$ for fusing coordination                                       | $V_R = 0.6V_{RRM}$                                                                            |                  |       |      | 3645  | $A^2s \cdot 10^3$ |
| $V_{TO}$               | Threshold voltage                                                    |                                                                                               | 115              |       |      | 1.30  | V                 |
| $r_T$                  | On-state slop resistance                                             |                                                                                               |                  |       |      | 0.14  | mΩ                |
| $V_{TM}$               | Peak on-state voltage                                                | $I_{TM}=5000A$ , $F=40KN$                                                                     | 25               |       |      | 3.15  | V                 |
| dv/dt                  | Critical rate of rise of off-state voltage                           | $V_{DM}=0.67V_{DRM}$                                                                          | 115              |       |      | 500   | V/μs              |
| di/dt                  | Critical rate of rise of on-state current                            | $V_{DM}=67\%V_{DRM}$ to 2000A,<br>Gate pulse $t_r \leq 0.5 \mu s$ $I_{GM}=1.5A$<br>Repetitive | 115              |       |      | 600   | A/μs              |
| $I_{rm}$               | Reverse recovery current                                             | $I_{TM}=1000A$ , $t_p=1000\mu s$ ,<br>$di/dt=-20A/\mu s$ ,<br>$V_R=50V$                       | 115              |       | 178  |       | A                 |
| $t_{rr}$               | Reverse recovery time                                                |                                                                                               |                  |       | 10.5 |       | μs                |
| $Q_{rr}$               | Recovery charge                                                      |                                                                                               |                  |       | 934  | 1100  | μC                |
| $t_q$                  | Circuit commutated turn-off time                                     | $I_{TM}=1000A$ , $t_p=1000\mu s$ , $V_R=50V$<br>$dv/dt=30V/\mu s$ , $di/dt=-20A/\mu s$        | 115              | 25    |      | 40    | μs                |
| $I_{GT}$               | Gate trigger current                                                 | $V_A=12V$ , $I_A=1A$                                                                          | 25               | 40    |      | 450   | mA                |
| $V_{GT}$               | Gate trigger voltage                                                 |                                                                                               |                  | 0.9   |      | 4.5   | V                 |
| $I_H$                  | Holding current                                                      |                                                                                               |                  | 20    |      | 1000  | mA                |
| $V_{GD}$               | Non-trigger gate voltage                                             | $V_{DM}=67\%V_{DRM}$                                                                          | 115              | 0.3   |      |       | V                 |
| $R_{th(j-h)}$          | Thermal resistance<br>Junction to heatsink                           | At 180° sine double side cooled<br>Clamping force 40KN                                        |                  |       |      | 0.011 | $^{\circ}C/W$     |
| $F_m$                  | Mounting force                                                       |                                                                                               |                  | 35    |      | 47    | KN                |
| $T_{stg}$              | Stored temperature                                                   |                                                                                               |                  | -40   |      | 130   | $^{\circ}C$       |
| $W_t$                  | Weight                                                               |                                                                                               |                  |       | 1100 |       | g                 |
| Outline                | KT73cT                                                               |                                                                                               |                  |       |      |       |                   |

**G76KKE**

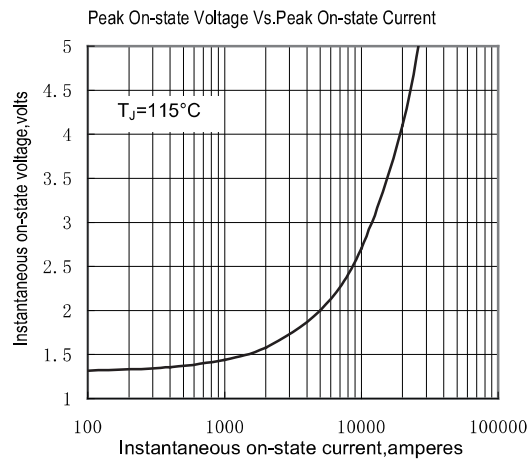


Fig.1

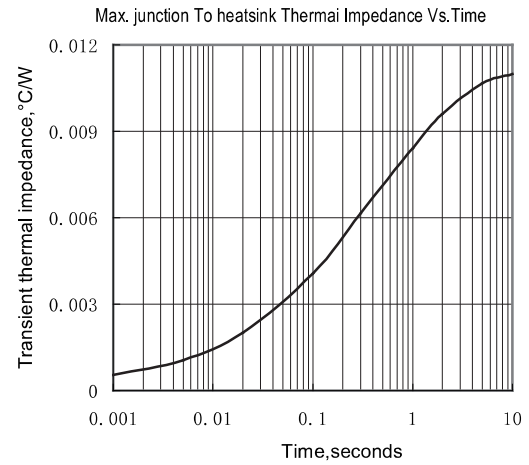


Fig.2

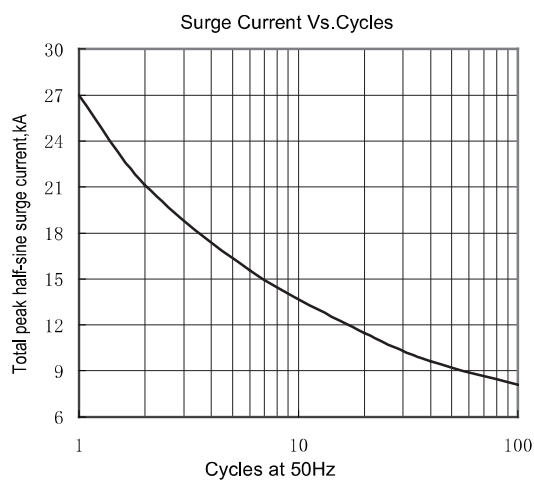


Fig.3

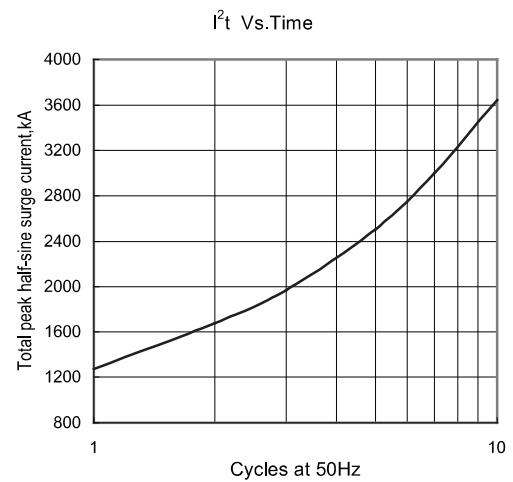


Fig.4

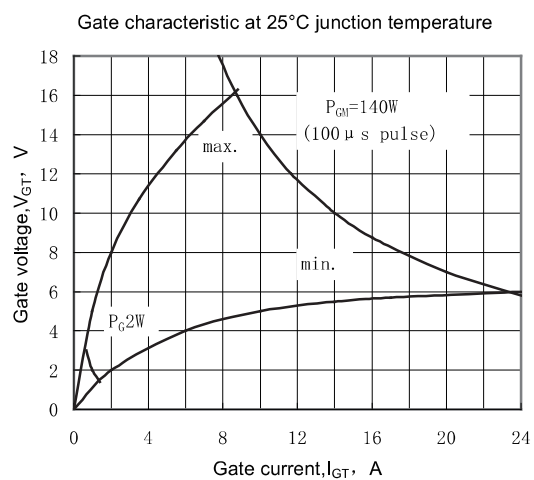


Fig.5

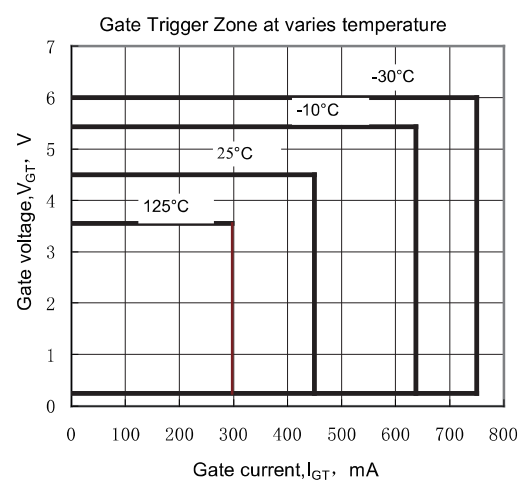


Fig.6

**G76KKE**

1

