

KP300A-R



PHASE CONTROL THYRISTOR

Features

- Center amplifying gate
- Metal case with ceramic insulator
- Low on-state and switching losses

Application

- Large power converter
- DC and AC switches
- Active & Passive inverter

| | |
|-------------------|-----------------------|
| $I_{T(AV)}$ | 300 A |
| V_{DRM}/V_{RRM} | 5600~6500V |
| I_{TSM} | 4.5KA |
| I^2T | 101 KA ² S |

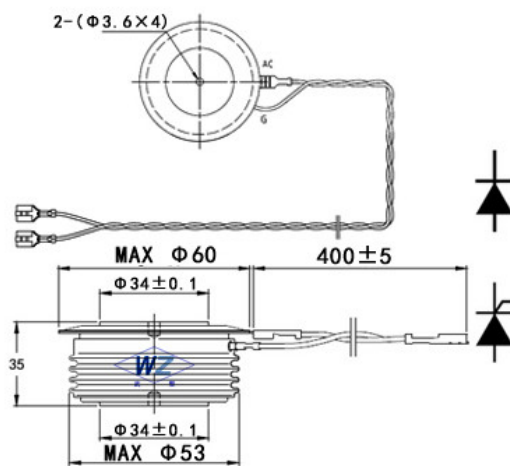
| Symb. | | parameter | Test Conditions | $T_{J(°C)}$ | Value | Unit |
|--------------------|------------------------|--|--|-------------|-----------|-------------------|
| Current Ratings | $I_{T(AV)}$ | Average on-state current | 180° half sine wave 50Hz Double side cooled $T_{hs}=70°C$ | 125 | 350 | A |
| | I_{TSM} | Surge on-state current | 10ms half sine wave $V_R=0.6V_{RRM}$ | 125 | 4.5 | KA |
| | I^2t | I ² T for fusing coordination | | 125 | 101 | KA ² S |
| Characteristics | V_{DRM} V_{RRM} | Repetitive peak off-state voltage Repetitive peak reverse voltage | V_{DRM} & V_{RRM} $t_p=10ms$ V_{DSM} & $V_{RSM}=V_{DRM}&V_{RRM}+100V$ | 125 | 5600~6500 | V |
| | I_{DRM} I_{RRM} | Repetitive peak current | $V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$ | 125 | 150 | mA |
| | V_{TO} | Threshold voltage | | 125 | Max.1.2 | V |
| | V_{TM} | Threshold voltage | $I_{TM}=1500A, F=18KN$ | 25 | Max.2.40 | V |
| | r_T | On-state slop resistance | | 125 | Max.0.78 | mΩ |
| | I_H | Holding current | $V_A=12V, I_A=1A$ | 25 | 20-250 | mA |
| Dynamic Parameters | dv/dt | Critical rate of rise of off-state voltage | $V_{DM}=67\%V_{DRM}$ | 125 | MIN.2000 | V/μs |
| | di/dt | Critical rate of rise of on-state current | $V_{DM}=67\%V_{DRM}$ to 600A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$ | 125 | Max.100 | A/μs |
| | t_{rr} | Reverse recovery time | $I_{TM}=500A, t_p=1000\mu s, V_R=50V$ | 125 | 800 | μs |
| | Q_{rr} | Reverse Recovery charge | di/dt=-20A/μs | 125 | 2000 | μc |
| Gate Parameters | I_{GT} | Gate trigger current | $V_A=12V, I_A=1A$ | 25 | 300 | mA |
| | V_{GT} | Gate trigger voltage | | 25 | 0.8-3.0 | V |
| | V_{GD} | Non-trigger gate voltage | $V_{DM}=67\%V_{DRM}$ | 125 | Min.0.3 | V |

Thermal & Mechanical Data

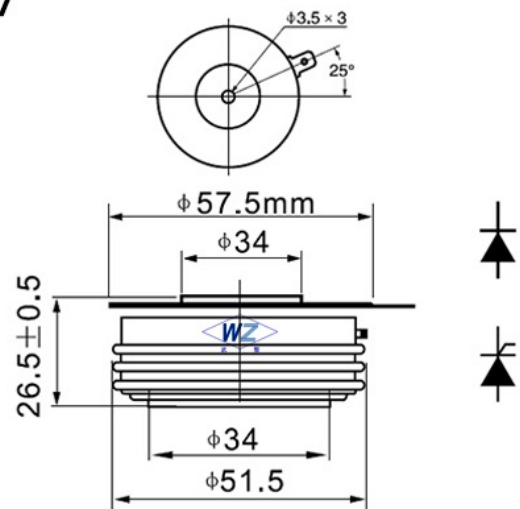
| Symb. | parameter | Test Conditions | T _J (°C) | Value | Unit |
|----------------------|--|---|---------------------|-----------|------|
| R _{th(j-h)} | Thermal resistance Junction to heat sink | At 180° sine wave, double side cooled Clamping force 15KN | | Max.0.032 | °C/W |
| F _m | Mounting force | | | 15-20 | KN |
| T _{stg} | Stored temperature | | | -40-140 | °C |
| W _t | Weight | | | 360 | g |

Dimensions:

C44



C17



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