

Features:

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses
- Short turn-off time
- Hermetic metal cases with ceramic insulators

$I_{T(AV)}$ **1110A**
 V_{DRM}/V_{RRM} **800~1200V**
 t_q **10~20μs**
 I_{TSM} **11kA**



Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters
- AC motor speed control
- General power switching applications

| 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 Double side cooled, $T_c=55^{\circ}C$ | 125 | | | 1110 | A |
| V_{DRM} V_{RRM} | Repetitive peak off-state voltage Repetitive peak reverse voltage | $t_p=10ms$ | 125 | 800 | | 1200 | V |
| I_{DRM} I_{RRM} | Repetitive peak off-state current Repetitive peak reverse current | at V_{DRM} at V_{RRM} | 125 | | | 60 | mA |
| I_{THf} | High frequency on-state current | $F=10KHz, T_c=55^{\circ}C$ | | | | 500 | A |
| I_{TSM} | Surge on-state current | 10ms half sine wave $V_R=0.6V_{RRM}$ | 125 | | | 11 | kA |
| I^2t | I^2t for fusing coordination | | | | | 605 | $A^2s \cdot 10^3$ |
| V_{TO} | Threshold voltage | | 125 | | | 1.41 | V |
| r_T | On-state slope resistance | | | | | 0.45 | mΩ |
| V_{TM} | Peak on-state voltage | $I_{TM}=2400A, F=21kN$ | 125 | | | 2.49 | V |
| dv/dt | Critical rate of rise of off-state voltage | $V_{DM}=0.67V_{DRM}$ | 125 | | | 200 | V/μs |
| di/dt | Critical rate of rise of on-state current | $V_{DM}=67\%V_{DRM}$ to 1800A, Gate pulse $t_r \leq 0.5\mu s, I_{GM}=1.5A$ | 125 | | | 1500 | A/μs |
| Q_{rr} | Recovery charge | $I_{TM}=1000A, t_p=2000\mu s,$ $di/dt=-60A/\mu s, V_R=50V$ | 125 | | 63 | | μC |
| t_q | Circuit commutated turn-off time | $I_{TM}=1000A, t_p=2000\mu s, V_R=50V$ $dv/dt=30V/\mu s, di/dt=-60A/\mu s$ | 125 | 10 | | 20 | μs |
| I_{GT} | Gate trigger current | | | 30 | | 250 | mA |
| V_{GT} | Gate trigger voltage | $V_A=12V, I_A=1A$ | 25 | 0.8 | | 3.0 | V |
| I_H | Holding current | | | 20 | | 400 | mA |
| V_{GD} | Non-trigger gate voltage | $V_{DM}=67\%V_{DRM}$ | 125 | 0.3 | | | V |
| $R_{th(j-c)}$ | Thermal resistance Junction to case | At 180° sine double side cooled | | | | 0.024 | °C/W |
| $R_{th(c-h)}$ | Thermal resistance case to heat sink | Clamping force 21kN | | | | 0.006 | |
| F_m | Mounting force | | | 18 | | 25 | kN |
| T_{stg} | Stored temperature | | | -40 | | 140 | °C |
| W_t | Weight | | | | | 380 | g |
| Outline | | | | | | | |

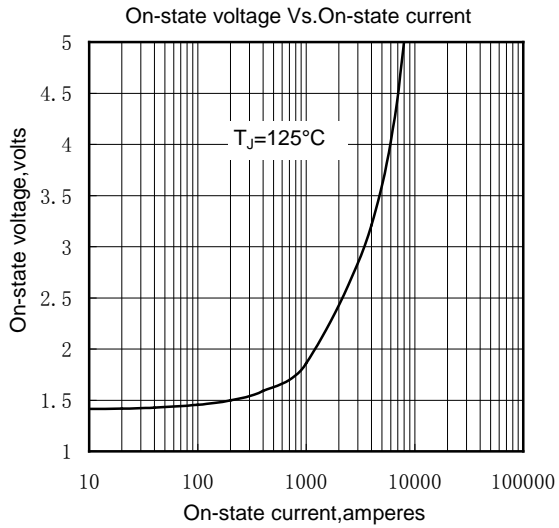


Fig. 1

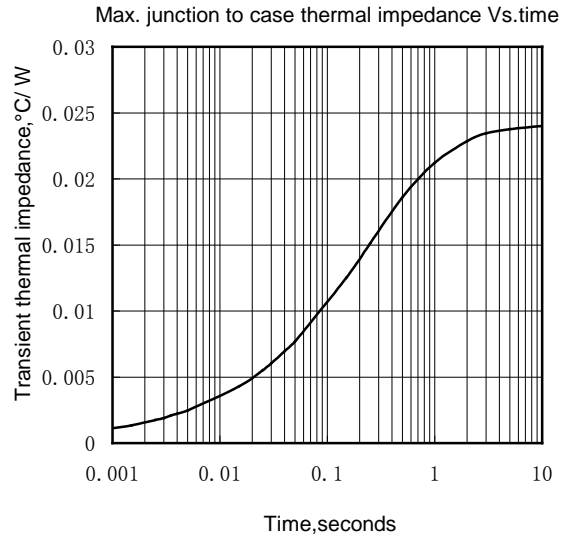


Fig. 2

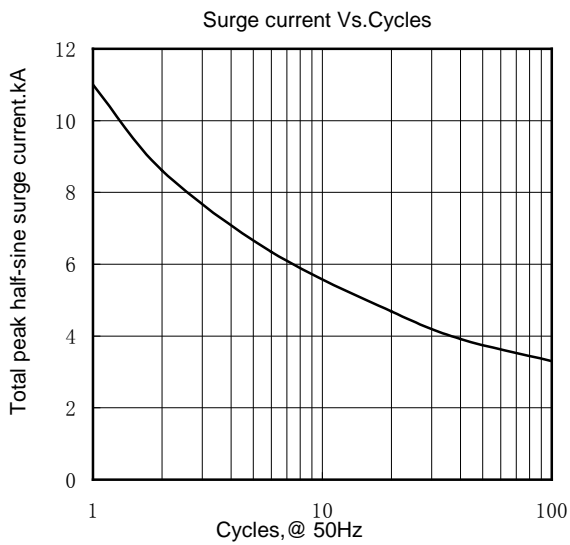


Fig. 3

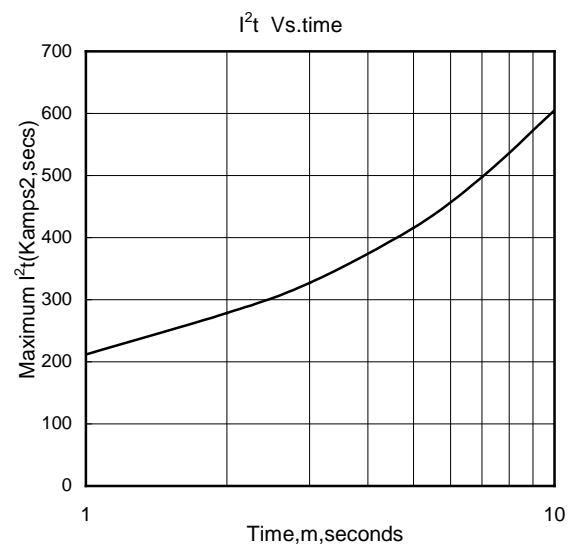


Fig. 4

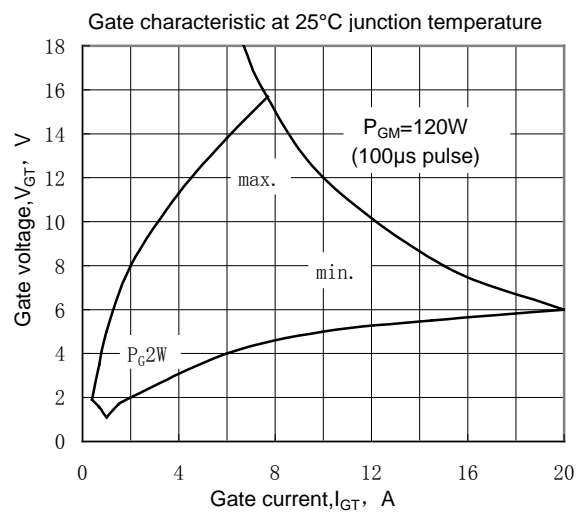


Fig. 5

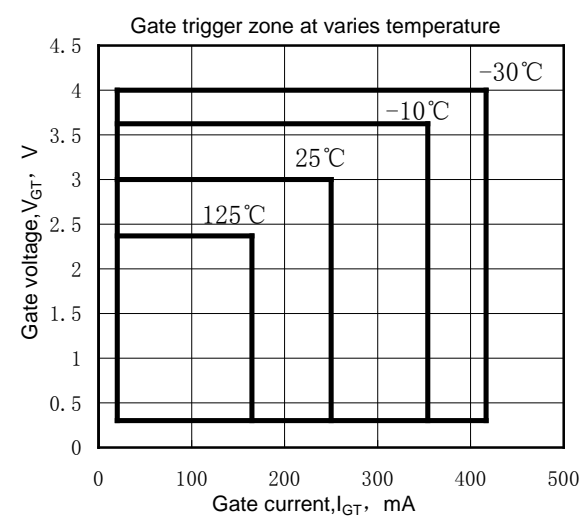


Fig. 6

Outline:

