



## JMT250KH18T2

### Thyristor Module

#### Features

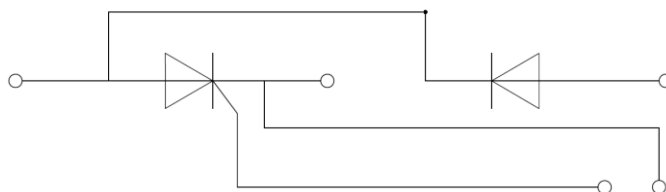
- Half-bridge configuration with integrated SCR and diode in a single package
- High-thermal-conductivity DBC insulation for excellent heat dissipation
- Vacuum soldering technology for enhanced reliability

#### Product Summary

| Parameter                        | Value | Unit |
|----------------------------------|-------|------|
| $V_{RRM}$                        | 1800  | V    |
| $I_{T(AV)}(@ T_C = 85^{\circ}C)$ | 250   | A    |
| $I_{TSM}(@ t_p = 10ms)$          | 8300  | A    |
| $V_T(Max)$                       | 1.8   | V    |

#### Applications

- Heating control
- Light control system
- DC motor



#### Absolute Maximum Ratings (@ $T_C = 25^{\circ}C$ unless otherwise specified)

| Parameter                                 | Conditions                                           | Symbol      | Values     | Unit             |
|-------------------------------------------|------------------------------------------------------|-------------|------------|------------------|
| Repetitive peak off-state voltage         | $T_{vj} = 25^{\circ}C$                               | $V_{DRM}$   | 1800       | V                |
| Repetitive peak reverse voltage           | $T_{vj} = 25^{\circ}C$                               | $V_{RRM}$   | 1800       | V                |
| Non-repetitive peak off-state voltage     | $T_{vj} = 25^{\circ}C$                               | $V_{DSM}$   | 1900       | V                |
| Non-repetitive peak reverse voltage       | $T_{vj} = 25^{\circ}C$                               | $V_{RSM}$   | 1900       | V                |
| Average forward current                   | $T_C = 85^{\circ}C$                                  | $I_{T(AV)}$ | 250        | A                |
| Forward surge current                     | 1/2 cycle, Sine wave, 50Hz<br>$T_{vj} = 25^{\circ}C$ | $I_{TSM}$   | 8300       | A                |
| $I^2t$ value for fusing                   |                                                      | $I^2t$      | 344400     | A <sup>2</sup> s |
| Critical rate of rise of on-state current | $I_G = 2 \times I_{GT}$                              | $di/dt$     | 150        | A/ $\mu$ s       |
| RMS isolation voltage                     | A.C 50Hz(1s/1min)                                    | $V_{ISO}$   | 3600/3000  | V                |
| Junction temperature range                |                                                      | $T_J$       | -40 ~ +125 | $^{\circ}C$      |
| Storage temperature range                 |                                                      | $T_{stg}$   | -40 ~ +125 | $^{\circ}C$      |

**Electrical Characteristics (@  $T_C = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                         | Conditions                                                      | Symbol           | Values |      |      | Unit                   |
|-----------------------------------|-----------------------------------------------------------------|------------------|--------|------|------|------------------------|
|                                   |                                                                 |                  | Min.   | Typ. | Max. |                        |
| Peak forward voltage              | $I_T=750\text{A}$ , $t_P=380\mu\text{s}$                        | $V_T$            |        |      | 1.80 | V                      |
| Repetitive peak off-state current | $V_D = V_{\text{DRM}}$ , $T_{vj} = 25^\circ\text{C}$            | $I_{\text{DRM}}$ |        |      | 100  | $\mu\text{A}$          |
|                                   | $V_D = V_{\text{DRM}}$ , $T_{vj} = 125^\circ\text{C}$           |                  |        |      | 60   | mA                     |
| Reverse leakage current           | $V_R = V_{\text{RRM}}$ , $T_{vj} = 25^\circ\text{C}$            | $I_{\text{RRM}}$ |        |      | 100  | $\mu\text{A}$          |
|                                   | $V_R = V_{\text{RRM}}$ , $T_{vj} = 125^\circ\text{C}$           |                  |        |      | 60   | mA                     |
| Threshold voltage                 | For power loss calculation only $T_{vj} = 125^\circ\text{C}$ ,  | $V_{\text{TO}}$  |        |      | 0.8  | V                      |
| Dynamic resistance                | $T_{vj} = 125^\circ\text{C}$ ,                                  | $r_T$            |        |      | 1.05 | $\text{m}\Omega$       |
| Triggering gate current           | $V_D=12\text{V}$ $R_L=30\Omega$                                 | $I_{\text{GT}}$  | 20     |      | 120  | mA                     |
| Holding current                   | $I_T=1\text{A}$                                                 | $I_H$            |        |      | 250  | mA                     |
| Latching current                  | $I_G=1.2 I_{\text{GT}}$                                         | $I_L$            |        |      | 300  | mA                     |
| Critical rate of rise of voltage  | $V_D=2/3V_{\text{DRM}}$ $T_{vj}=125^\circ\text{C}$<br>Gate Open | $dv/dt$          | 1000   |      |      | $\text{V}/\mu\text{s}$ |
| Triggering gate voltage           | $V_D=12\text{V}$ $R_L=30\Omega$                                 | $V_{\text{GT}}$  |        |      | 1.8  | V                      |
| Non triggering gate voltage       | $V_D=0.5V_{\text{DRM}}$ $T_{vj}=125^\circ\text{C}$              | $V_{\text{GD}}$  | 0.25   |      |      | V                      |

**Thermal Characteristics (@  $T_C = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                            | Conditions                          | Symbol               | Values |      |      | Unit                      |
|--------------------------------------|-------------------------------------|----------------------|--------|------|------|---------------------------|
|                                      |                                     |                      | Min.   | Typ. | Max. |                           |
| Thermal resistance, junction to case | per chip                            | $R_{\text{th(j-c)}}$ |        | 0.11 |      | $^\circ\text{C}/\text{W}$ |
| Thermal resistance, case to heatsink | per chip                            | $R_{\text{th(c-s)}}$ |        | 0.07 |      | $^\circ\text{C}/\text{W}$ |
| Mounting torque                      | Module and heatsink fixed torque M5 | M                    | 4.25   |      | 5.75 | $\text{N}\cdot\text{m}$   |
|                                      | Electrode connection torque M6      |                      | 4.25   |      | 5.75 | $\text{N}\cdot\text{m}$   |



## Ordering Information

| Device       | Marking      | Package | Weight      | Inner Box | Per Carton |
|--------------|--------------|---------|-------------|-----------|------------|
| JMT250KH18T2 | JMT250KH18T2 | T2      | 170±10g/PCS | 6 PCS     | 72 PCS     |

## Typical Electrical & Thermal Characteristics

**FIG.1: Power dissipation vs. on-state current**  
(per thyristor or diode)

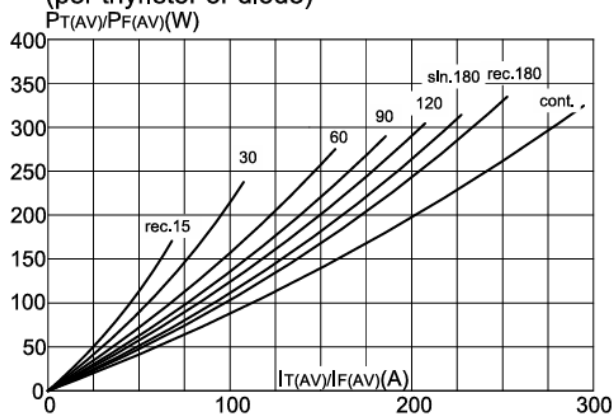


**FIG.2: Maximum transient thermal impedance**  
junction to case(per thyristor or diode)

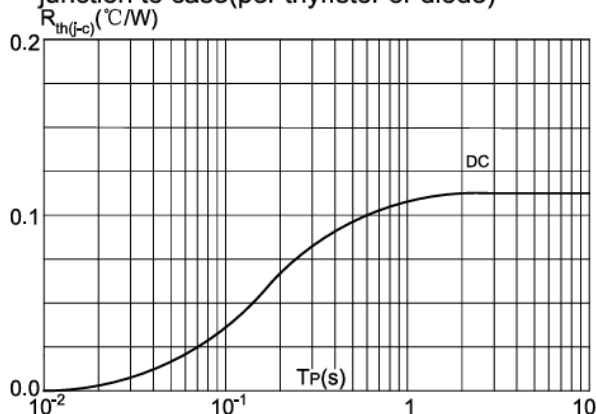


**FIG.3: Forward characteristics**  
(per thyristor or diode)

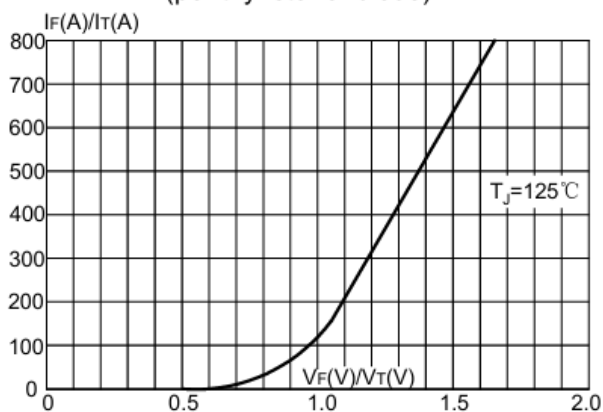


**FIG.4: Relative variations of gate trigger current, holding current and latching current versus junction temperature**

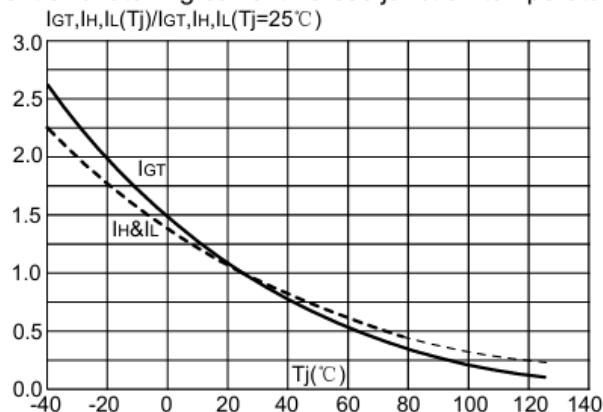


**FIG.5 Gate trigger characteristics**

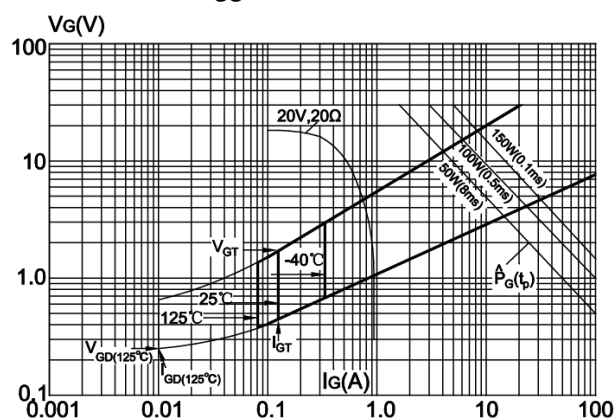
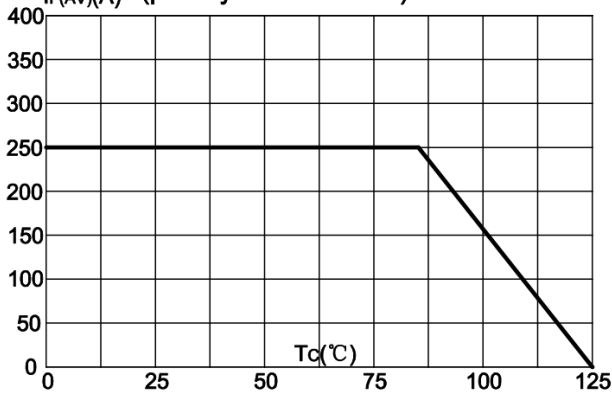
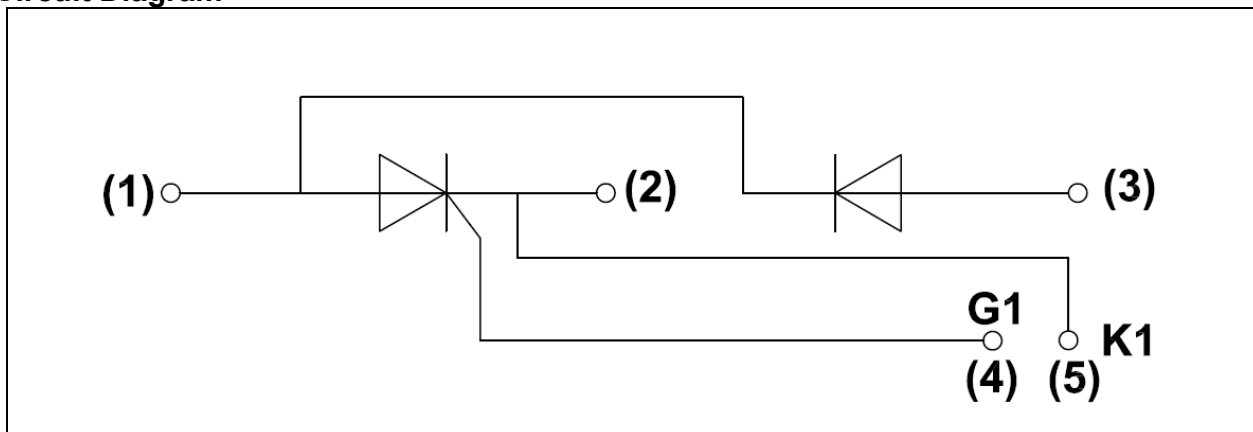
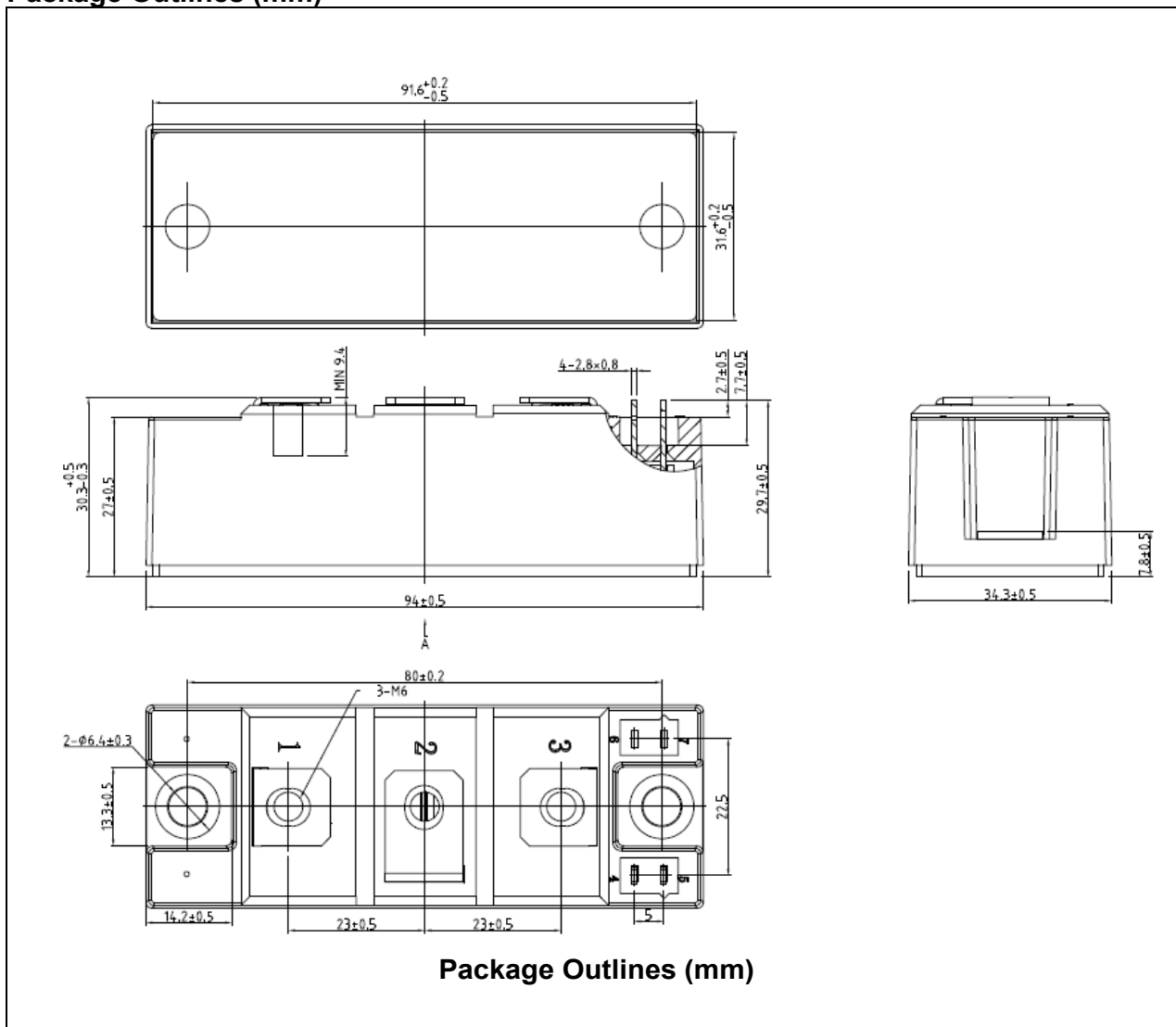


**FIG.6: Forward current vs. case temperature**



**Circuit Diagram**

**Package Outlines (mm)**




Jiangsu JieJie Semiconductor Co., Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. This information in this document is subject to change without prior notice. Notwithstanding this, Jiangsu JieJie will fully comply with the terms outlined in a signed agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information. This document is the initial release, dated 16 July 2026. This document supersedes and replaces all information previously supplied.

 is registered trademark of Jiangsu JieJie Semiconductor Co., Lt ©2026 Jiangsu JieJie Semiconductor Co., Ltd. All rights reserved.