



Ruttonsha International Rectifier Ltd.

THYRISTORS MODULE (NON ISOLATED TYPE)

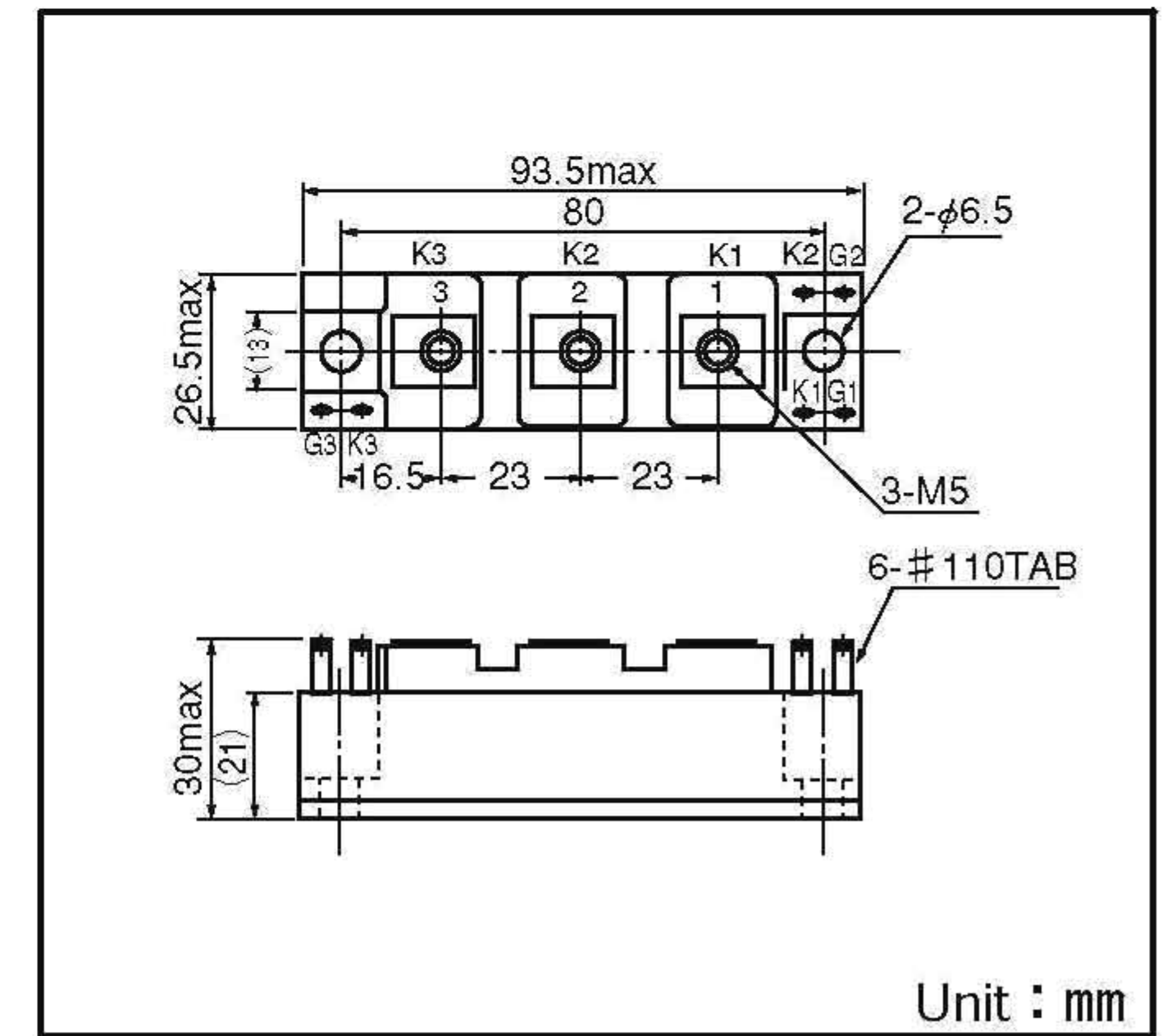
Type : RHTT 60 A 40

Features

- $I_{T(AV)}$ 60A (each device)
- High Surge Current 1640 A
- Easy Construction
- Non-isolated. Mounting base as common Anode terminal

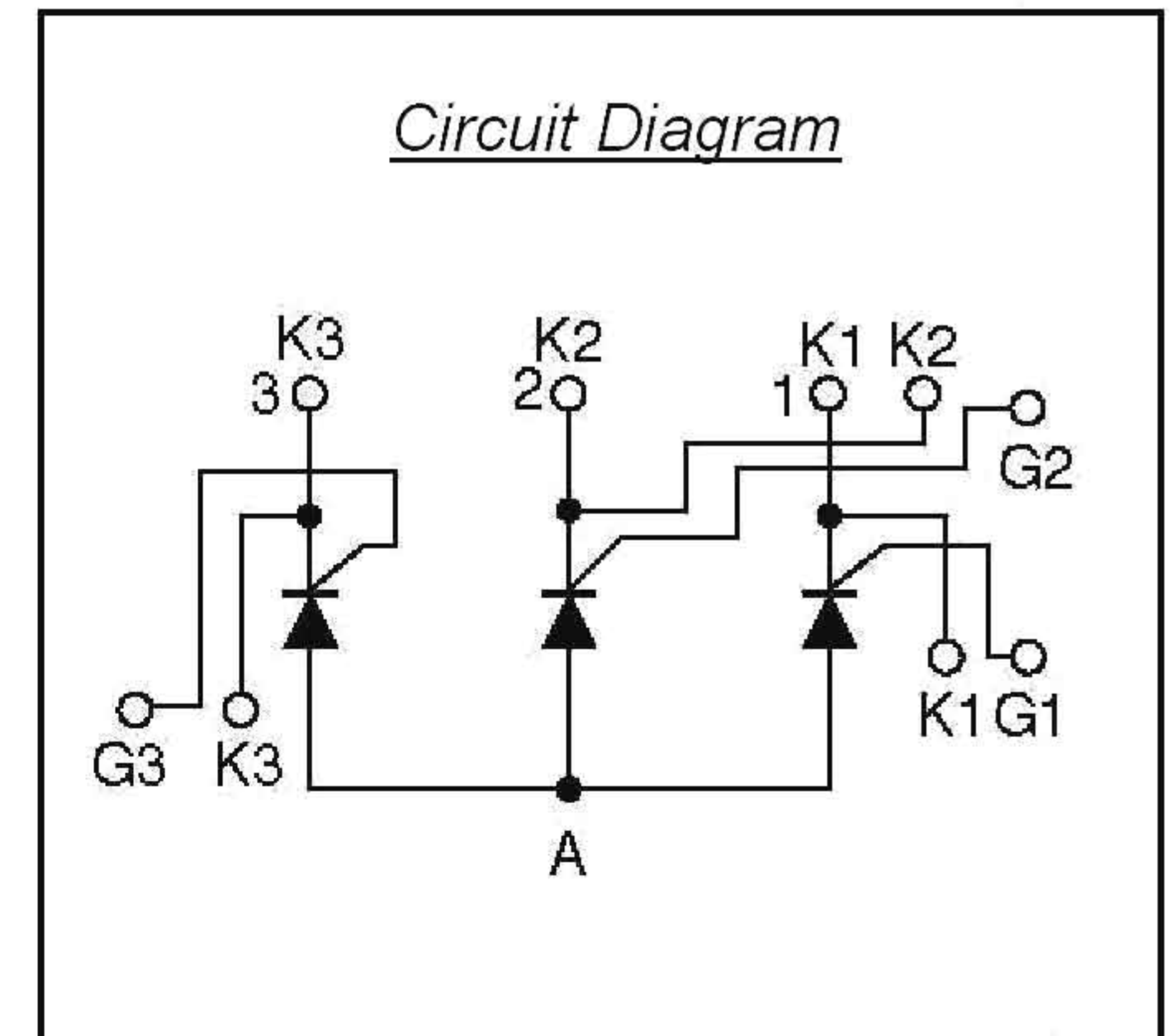
Applications

- Welding power Supply
- Various DC power Supply



Major Ratings and Characteristics :-

| PARAMETERS | RHTT 60 A 40 | UNITS |
|----------------------------|--------------|-------------------|
| $I_{T(AV)}$ or $I_{F(AV)}$ | 60 | A |
| @ T_C | 123 | °C |
| $I_{T(RMS)}$ | 94 | A |
| @ T_C | 123 | °C |
| I_{TSM} @50Hz | 1640 | A |
| I^2t @50Hz | 13.5 | KA ² s |
| V_{DRM} / V_{RRM} | 400 | V |
| T_J | - 30 to 150 | °C |
| T_{STG} | - 30 to 125 | °C |



THYRISTORS MODULE (NON ISOLATED TYPE)

ELECTRICAL SPECIFICATIONS

Type : RHTT 60 A

Voltage Ratings

| Type number | Voltage Code | V_{DRM}/V_{RRM} , max repetitive peak and off-state voltage V | V_{RSM} , maximum non-repetitive peak voltage V | I_{DRM}/I_{RRM} max. @ $T_C = 125^\circ\text{C}$ mA |
|-------------|--------------|--|--|---|
| RHTT60 A 40 | 04 | 400 | 480 | 10 |

On - state Conduction

| Parameter | RHTT60 A 40 | Units | Conditions |
|---|-------------|------------------------|---|
| $I_{T(AV)}$ Max. average on-state current @ case temperature | 60 | A | Single phase, half wave, 180° conduction |
| | 123 | $^\circ\text{C}$ | |
| $I_{T(RMS)}$ Max RMS on-state current | 94 | A | Single phase, half wave, 180° conduction, $T_C = 123^\circ\text{C}$ |
| I_{TSM} or I_{FSM} Max. peak, half-cycle non-repetitive surge current | 1640 | A | $t = 10\text{ms}$ $T_J = 25^\circ\text{C}$ No voltage reapplied |
| I^2t Maximum I^2t for fusing | 13.5 | KA^2s | $t = 10\text{ms}$ $T_J = 25^\circ\text{C}$ No voltage reapplied |
| V_{TM} Max peak on state voltage | 1.25 | V | $180\text{A}_{\text{Peak}}$ $T_J = 25^\circ\text{C}$ 180° conduction |
| di/dt Max. non-repetitive rate of rise of turned on current | 50 | $\text{A}/\mu\text{s}$ | $I_G = 150\text{mA}$, $T_J = 25^\circ\text{C}$, $V_D = \frac{1}{2}V_{DRM}$, $dI_G/dt = 1\text{A}/\mu\text{s}$ |
| I_H Maximum holding current typ. | 100 | mA | $T_J = 25^\circ\text{C}$, anode supply = 6V, resistive load, gate open circuit |

BLOCKING

| | | | |
|---|----|------------------------|---|
| I_{RRM} or I_{DRM} Max. peak reverse and off-state leakage current at V_{RRM} , V_{DRM} | 10 | mA | $T_C = 125^\circ\text{C}$, gate open circuit |
| dv/dt Max. critical rate of rise of off-state Voltage | 50 | $\text{V}/\mu\text{s}$ | $T_J = 125^\circ\text{C}$ linear to $0.67V_{DRM}$, gate open circuit |

THERMAL AND MECHANICAL SPECIFICATIONS

| | | | |
|--|------------|---------------------------|--|
| T_J Junction operating temperature range | -30 to 150 | $^\circ\text{C}$ | |
| T_{stg} Storage temp. range | -30 to 125 | $^\circ\text{C}$ | |
| R_{thJC} Max. internal thermal resistance, junction to case | 0.35 | $^\circ\text{C}/\text{W}$ | $\frac{1}{3}$ module |
| T Mounting torque $\pm 10\%$ Module to heatsink Busbar to module | 4.7 | Nm | A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound. |
| | 2.7 | Nm | |
| Wt Approximate weight | 170 | g | |

ELECTRICAL SPECIFICATION

TRIGGERING

| | | | |
|--|-----|----|--|
| V_{GT} Max. gate voltage required to trigger | 2.0 | V | $T_J = 25^\circ\text{C}$, anode supply 6 V resistive load |
| I_{GT} Max. gate current required to trigger | 150 | mA | |
| P_{GM} Max. peak gate power | 10 | W | |
| $P_{G(AV)}$ Max. average gate power | 1.0 | W | |
| I_{GM} Max. peak gate current | 3.0 | A | |
| $-V_{GM}$ Max. peak negative gate voltage | 5.0 | V | |

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