

Diode Bridge & Thyristor

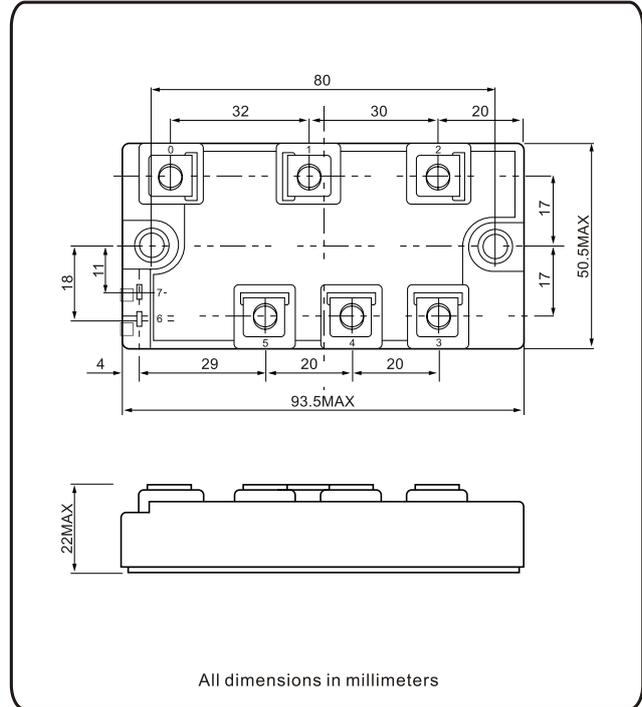
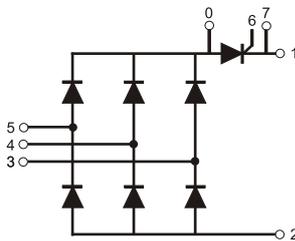
Features

- Diode bridge & thyristor
- Direct mounting to Heatsink
- Easy Connection
- Viso=2500VAC(RMS)

Typical Applications

- AC Inverters
- DC Motor Control
- Switching Power Supply

■ Circuit Configuration



Electrical Characteristics

| Parameter | Condition | Value | Unit | |
|-------------|--|--|-------------|---------------------------|
| I_O | Average rectified output current | 3-Phase full wave rectifier | 50 | A |
| I_{TSM} | Surge on-state current | Half sine wave , 1pulse non-repetitive | 600 | A |
| V_{RRM} | Repetitive peak reverse voltage | $V_{RSM}=V_{RRM} \times 1.1$ | 800 to 1600 | V |
| I_{RM} | Peak reverse current | $T_j=125^\circ\text{C}$, $V_{RM}=V_{RRM}$ | 6 | mA |
| I_{FSM} | Surge forward current | Half sine wave , 1pulse, non-repetitive | 800 | A |
| I^2_t | Maximum I^2t for fusing | 2~10ms | 2800 | A^2s |
| V_{FM} | Peak forward voltage drop | $T_j=25^\circ\text{C}$ | 1.2 | V |
| d_v/dt | Critical rate of rise of off-state voltage | $T_j=125^\circ\text{C}$, $V_D=2/3V_{DRM}$ | 500 | $\text{V}/\mu\text{s}$ |
| d_i/dt | Max. Rate of rise of turned-on current | | 100 | $\text{A}/\mu\text{s}$ |
| V_{TM} | Peak on-state current | $T_j=25^\circ\text{C}$ | 1.1 | V |
| V_{GT} | Max. Required DC gate voltage to trigger | $V_D=6\text{V}$, $I_T=1\text{A}$, $T_j=25^\circ\text{C}$ | 2.5 | V |
| I_{GT} | Max. Required DC gate current to trigger | $V_D=6\text{V}$, $I_T=1\text{A}$, $T_j=25^\circ\text{C}$ | 100 | mA |
| I_H | Holding current | $T_j=25^\circ\text{C}$ | 80 | mA |
| R_{thj-c} | Thermal resistance | Junction to case | 0.21 | $^\circ\text{C}/\text{W}$ |
| R_{thc-f} | Thermal resistance | Case to Fin | 0.15 | $^\circ\text{C}/\text{W}$ |
| V_{iso} | RMS isolation voltage | Terminal to base , AC=1min | 2500 | V |
| T_j | Operating junction temperature range | | -40 to 150 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature range | | -40 to 125 | $^\circ\text{C}$ |
| W_t | Approximate weight | | 150 | g |
| F_m | Mounting torque | Mounting(M5) | 2.4 to 2.8 | N.m |
| | | Terminal(M5) | 2.4 to 2.8 | |

Fig. 1
Forward current VS. Voltage

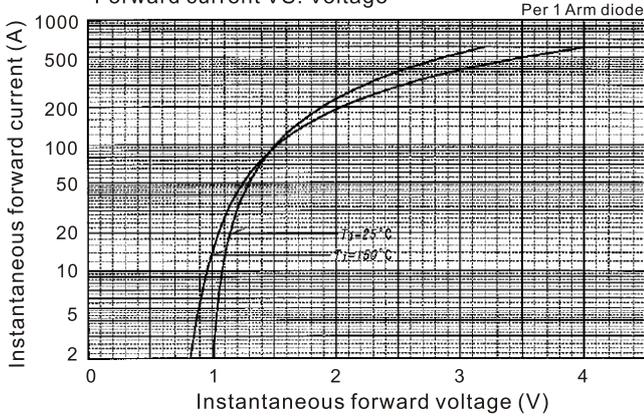


Fig. 2
Average forward power dissipation

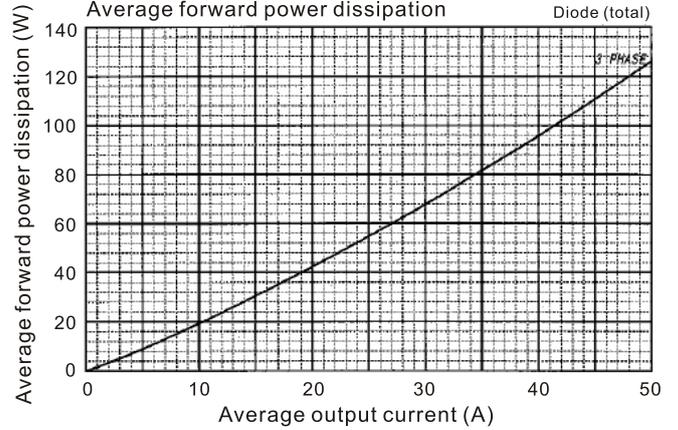


Fig. 3
On-state current VS. Voltage

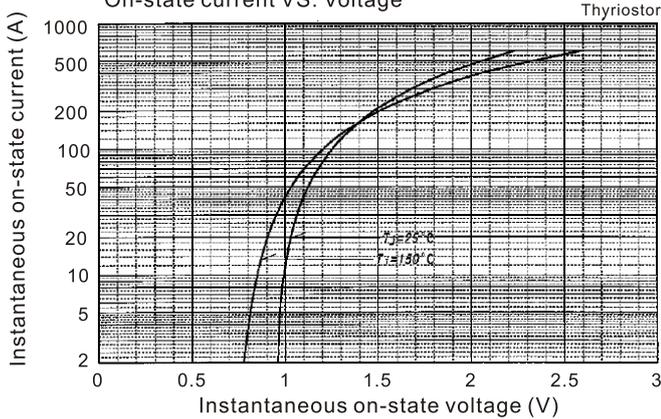


Fig. 4
Average on-state power dissipation

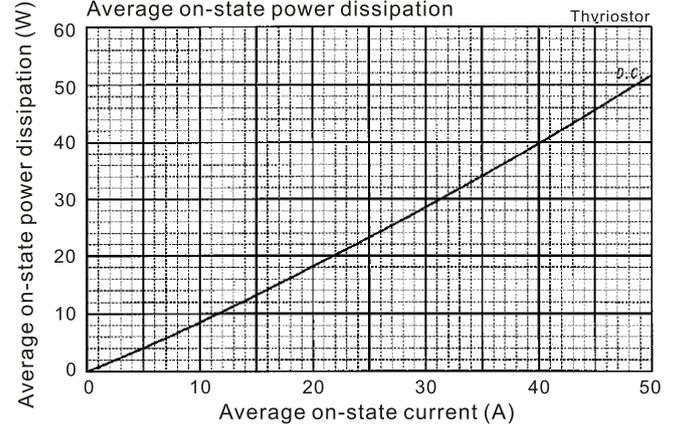


Fig. 5
Average output current VS. Case temperature

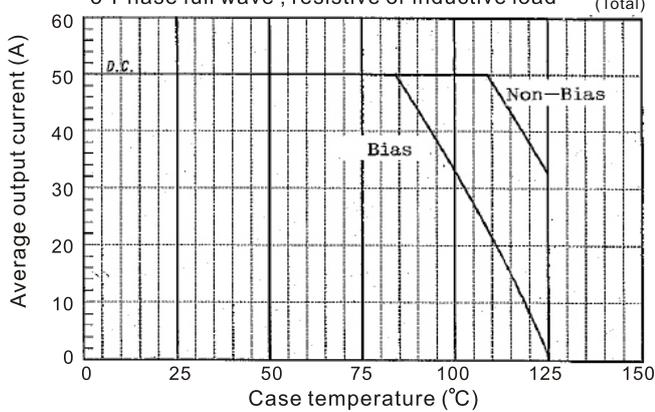


Fig. 6
Surge current ratings

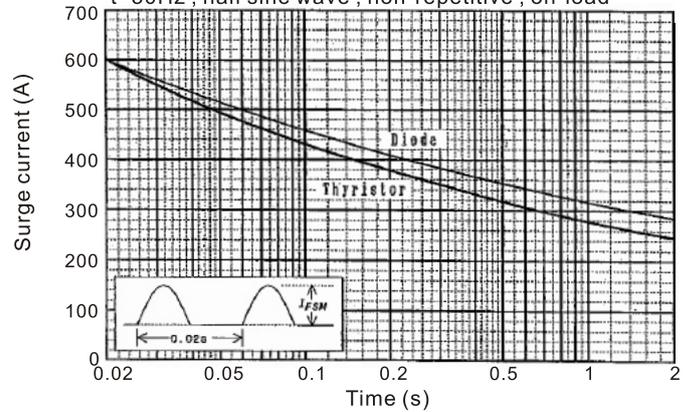


Fig. 7
Gate characteristics

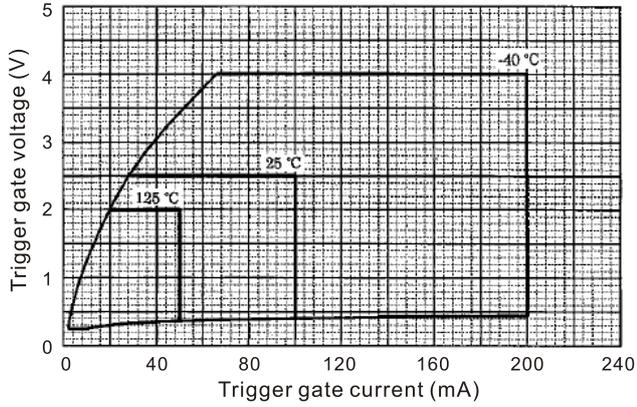


Fig. 8
Gate ratings

