



Micro Commercial Components



Micro Commercial Components
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 Simi Valley, CA 93065
 USA
 Tel:818-701-4933

MT200C08T2
MT200C12T2
MT200C16T2
MT200C18T2

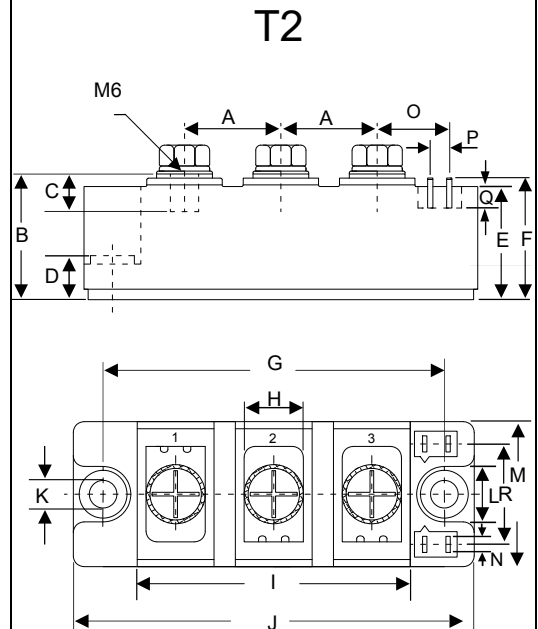
200 Amp
THYRISTOR MODULE
800~1800 Volts

Features

- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- International standard package
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- Simple Mounting

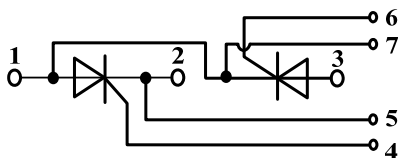
Applications

- Power Converters
- Lighting Control
- DC Motor Control and Drives
- Heat and temperature control



| DIM | INCHES | | MM | | NOTE |
|-----|------------|-------|---------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.894 | 0.917 | 22.50 | 23.50 | |
| B | 1.169 | 1.193 | 29.50 | 30.50 | |
| C | 0.343 | 0.366 | 8.50 | 9.50 | |
| D | 0.323 | 0.343 | 8.00 | 8.90 | |
| E | 1.051 | 1.075 | 26.50 | 27.50 | |
| F | 1.130 | 1.154 | 28.50 | 29.50 | |
| G | 0.120 | 0.130 | 79.50 | 80.50 | |
| H | 0.500 | 0.524 | 12.50 | 13.50 | |
| I | 2.501 | 2.531 | 63.50 | 64.50 | |
| J | 3.689 | 3.713 | 93.50 | 94.50 | |
| K | 0.256 | | 6.50 | | ∅ |
| L | 0.500 | 0.524 | 12.50 | 13.50 | |
| M | 1.327 | 1.350 | 33.50 | 34.50 | |
| N | 0.032X0.11 | | 0.8X2.8 | | |
| O | 0.677 | 0.700 | 17.00 | 18.00 | |
| P | 0.185 | 0.209 | 4.50 | 5.50 | |
| Q | 0.185 | 0.209 | 4.50 | 5.50 | |
| R | 0.902 | 0.925 | 22.70 | 23.70 | |

Circuit



Module Type

| TYPE | VRRM | VRSM |
|------------|-------|-------|
| MT200C08T2 | 800V | 900V |
| MT200C12T2 | 1200V | 1300V |
| MT200C16T2 | 1600V | 1700V |
| MT200C18T2 | 1800V | 1900V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|-----------|---|--------------|------------------|
| I_{TAV} | Sine 180°; $T_c=85^\circ\text{C}$ | 200 | A |
| I_{TSM} | $T_{VJ}=45^\circ\text{C}$ $t=10\text{ms}$, sine | 5500 | A |
| | $T_{VJ}=125^\circ\text{C}$ $t=10\text{ms}$, sine | 5000 | |
| i^2t | $T_{VJ}=45^\circ\text{C}$ $t=10\text{ms}$, sine | 151000 | A ² s |
| | $T_{VJ}=125^\circ\text{C}$ $t=10\text{ms}$, sine | 125000 | |
| Visol | a.c.50HZ;r.m.s.;1min | 3000 | V |
| T_{vj} | | -40 to 130 | $^\circ\text{C}$ |
| T_{stg} | | -40 to 125 | $^\circ\text{C}$ |
| M_t | To terminals(M6) | $3 \pm 15\%$ | Nm |
| M_s | To heatsink(M6) | $5 \pm 15\%$ | Nm |
| di/dt | $T_{VJ}=T_{VJM}$, $2/3V_{DRM}$, $I_G=500\text{mA}$ $T_r < 0.5\mu\text{s}$, $t_p > 6\mu\text{s}$ | 200 | A/us |
| dv/dt | $T_J = T_{VJM}$, $2/3V_{DRM}$, linear voltage rise | 1000 | V/us |
| a | Maximum allowable acceleration | 50 | m/s^2 |
| Weight | Module(Approximately) | 165 | g |

Thermal Characteristics

| Symbol | Conditions | Values | Units |
|---------------|-------------------------------|-----------|--------------------|
| $R_{th(j-c)}$ | Cont.; thyristor / per module | 0.16/0.08 | $^\circ\text{C/W}$ |
| $R_{th(c-s)}$ | per thyristor / per module | 0.1/0.05 | $^\circ\text{C/W}$ |

| Symbol | Conditions | Values | | Units |
|-------------------|--|--------|------|------------------|
| | | | | |
| V_{TM} | $T=25^\circ\text{C}$ $I_{TM}=620\text{A}$ | | 1.7 | V |
| I_{RRM}/I_{DRM} | $T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$ | | 40 | mA |
| V_{TO} | For power-loss calculations only ($T_{VJ}=125^\circ\text{C}$) | | 0.85 | V |
| r_T | $T_{VJ}=T_{VJM}$ | | 1.5 | $\text{m}\Omega$ |
| V_{GT} | $T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$ | | 3 | V |
| I_{GT} | $T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$ | | 200 | mA |
| V_{GD} | $T_{VJ}=125^\circ\text{C}$, $V_D=2/3V_{DRM}$ | | 0.25 | V |
| I_{GD} | $T_{VJ}=125^\circ\text{C}$, $V_D=2/3V_{DRM}$ | | 10 | mA |
| I_L | $T_{VJ}=25^\circ\text{C}$, $R_G=33\Omega$ | 300 | 1000 | mA |
| I_H | $T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$ | 150 | 400 | mA |
| tg _d | $T_{VJ}=25^\circ\text{C}$, $I_G=1\text{A}$, $di_G/dt=1\text{A/us}$ | 1 | | us |
| tq | $v_J=T_{VJM}$ | 100 | | us |

Performance Curves

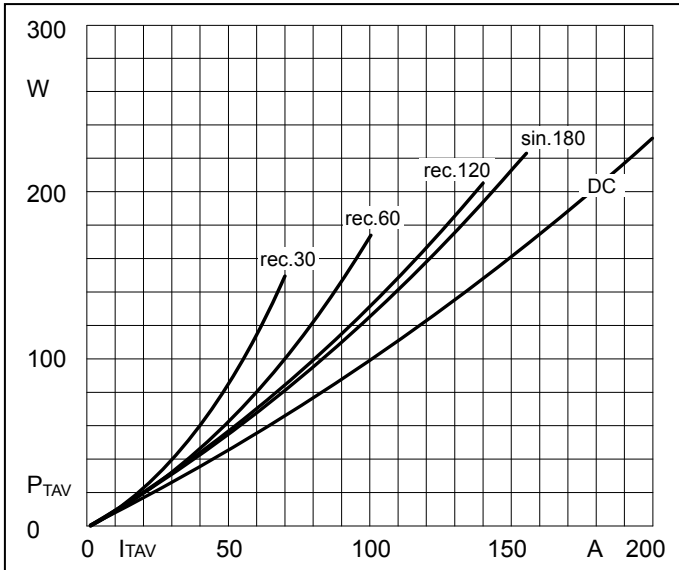


Fig1. Power dissipation

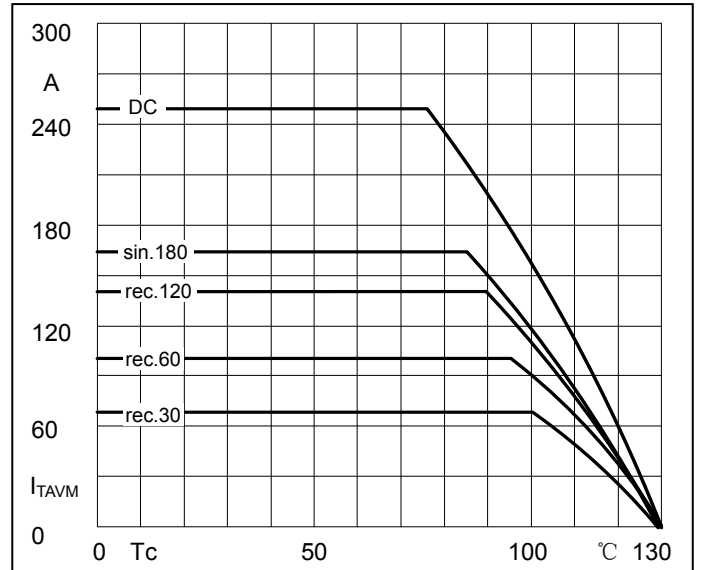


Fig2. Forward Current Derating Curve

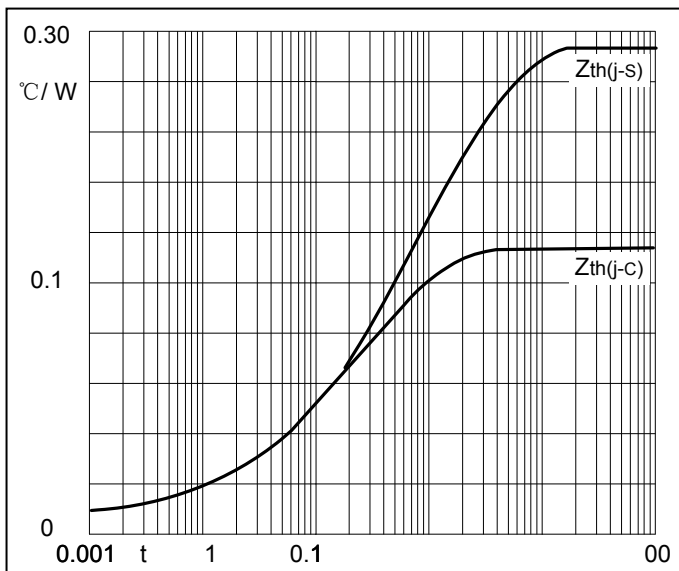


Fig3. Transient thermal impedance

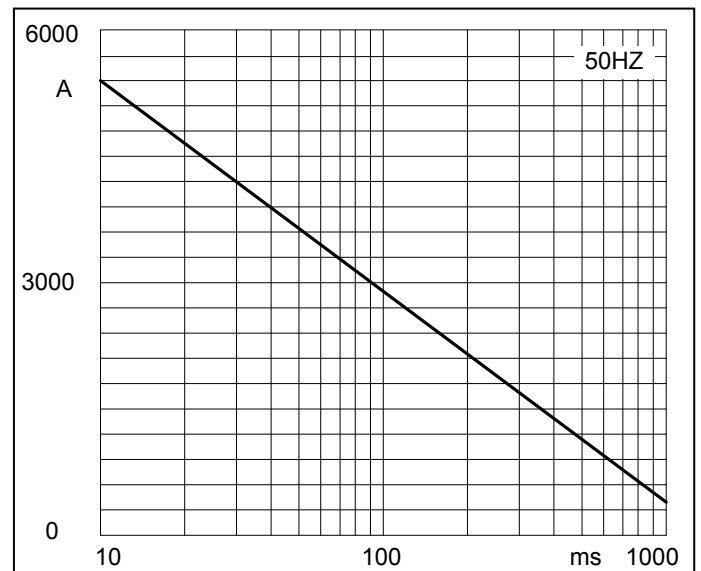


Fig4. Max Non-Repetitive Forward Surge Current

Performance Curves

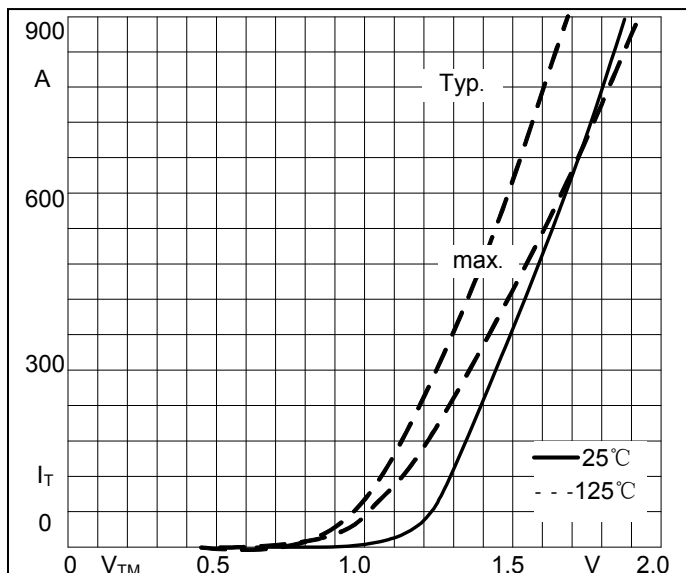


Fig5. Forward Characteristics

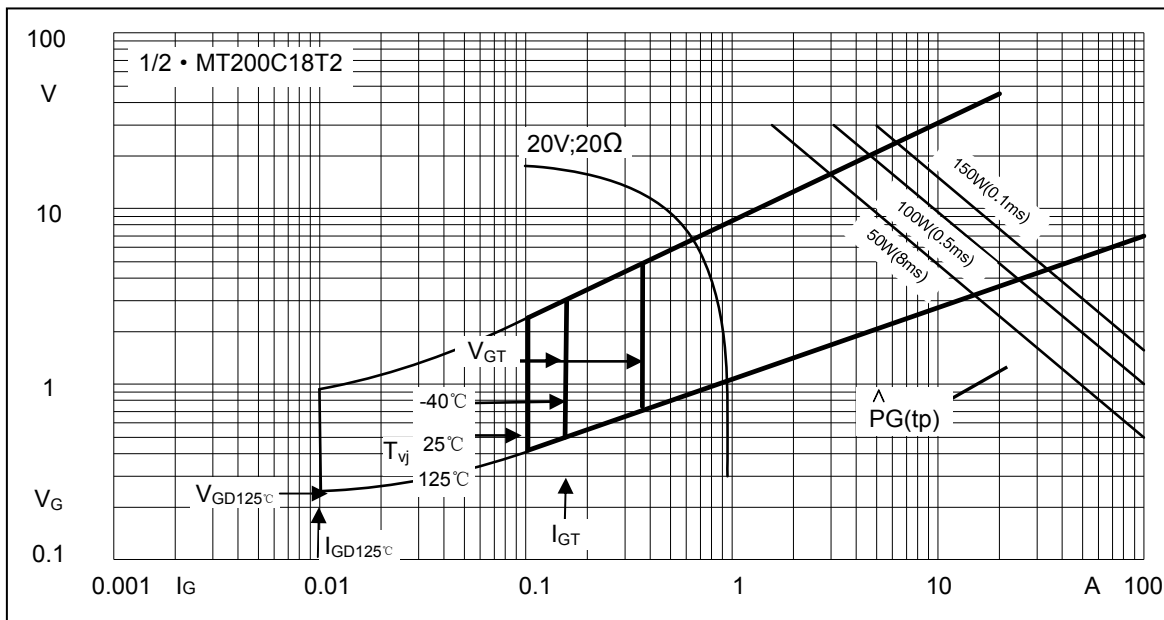


Fig6. Gate trigger Characteristics



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Ordering Information :

| Device | Packing |
|----------------|---------------------------|
| Part Number-BP | Bulk: 8PCS/BOX ;80PCS/CTN |

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