

Features

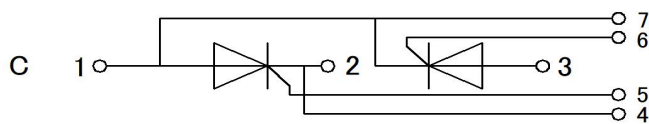
- International standard package
- High Surge Capability
- Simple Mounting
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Applications

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



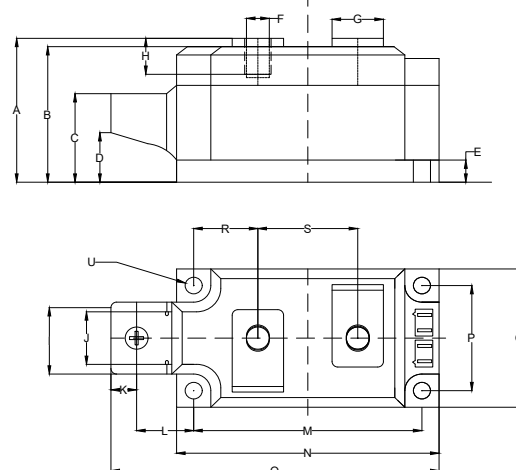
Circuit



Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 7a.

250 Amp Thyristor Modules 1600 Volts

T3



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|--------|--------|------|
| | MIN | MAX | MIN | MAX | |
| A | 2.028 | 2.067 | 51.50 | 52.50 | |
| B | 1.909 | 1.949 | 48.50 | 49.50 | |
| C | 1.240 | 1.280 | 31.50 | 32.50 | |
| D | 0.685 | 0.724 | 17.40 | 18.40 | |
| E | 0.295 | 0.335 | 7.50 | 8.50 | |
| F | 0.295 | 0.335 | 7.50 | 8.50 | |
| G | 0.689 | 0.728 | 17.50 | 18.50 | |
| H | 0.492 | 0.531 | 12.50 | 13.50 | |
| I | 1.004 | 1.043 | 25.50 | 26.50 | |
| J | 0.728 | 0.768 | 18.50 | 19.50 | |
| K | 0.335 | 0.374 | 8.50 | 9.50 | |
| L | 0.768 | 0.807 | 19.50 | 20.50 | |
| M | 3.130 | 3.169 | 79.50 | 80.50 | |
| N | 3.602 | 3.642 | 91.50 | 92.50 | |
| O | 4.508 | 4.547 | 114.50 | 115.50 | |
| P | 1.476 | 1.516 | 37.50 | 38.50 | |
| Q | 1.949 | 1.988 | 49.50 | 50.50 | |
| R | 0.866 | 0.906 | 22.00 | 23.00 | |
| S | 1.358 | 1.398 | 34.50 | 35.50 | |
| T | 0.236 | | 6.00 | | Ø |

Module Type

| TYPE | VRRM | VRSM |
|-------------|-------|-------|
| MT250C16T3W | 1600V | 1800V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|-----------|---|------------|----------------------|
| I_{TAV} | Sine 180°; $T_c=85^{\circ}\text{C}$ | 250 | A |
| I_{TSM} | $T_{VJ}=125^{\circ}\text{C}$ $t=10\text{ms}$, sine | 9000 | A |
| i^2t | $T_{VJ}=125^{\circ}\text{C}$ $t=10\text{ms}$, sine | 405000 | A^2s |
| Visol | a.c.50HZ;r.m.s.;1min, I_{iso} :2mA(MAX) | 2500 | V |
| T_{vj} | | -40 to 125 | $^{\circ}\text{C}$ |
| T_{stg} | | -40 to 125 | $^{\circ}\text{C}$ |
| Mt | To terminals(M8) | 12±15% | Nm |
| Ms | To heatsink(M6) | 6±15% | Nm |
| di/dt | $T_{VJ}=T_{VJM}$, $V_{DM}=2/3V_{DRM}$ | 100 | A/us |
| dv/dt | $T_J=T_{VJM}$, $2/3V_{DRM}$, linear voltage rise | 1000 | V/us |
| Weight | Module(Approximately) | 690 | g |

Thermal Characteristics

| Symbol | Conditions | Values | Units |
|---------------|------------|--------|----------------------|
| $R_{th(j-c)}$ | per chip | 0.12 | $^{\circ}\text{C/W}$ |
| $R_{th(c-h)}$ | per module | 0.04 | $^{\circ}\text{C/W}$ |

Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|-------------------|--|--------|------|------|-------|
| | | Min. | Typ. | Max. | |
| V_{TM} | $T=25^{\circ}\text{C}$ $I_{TM}=750\text{A}$ | | | 1.55 | V |
| I_{RRM}/I_{DRM} | $T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$ | | | 25 | mA |
| V_{GT} | $T_{VJ}=25^{\circ}\text{C}$, $V_D=12\text{V}$, $R_G=3\ \Omega$ | 0.8 | | 2.5 | V |
| I_{GT} | $T_{VJ}=25^{\circ}\text{C}$, $V_D=12\text{V}$, $R_G=3\ \Omega$ | 30 | | 150 | mA |
| I_L | $T_{VJ}=25^{\circ}\text{C}$, $V_D=12\text{V}$, $R_G=3\ \Omega$ | | | 1000 | mA |
| I_H | $T_{VJ}=25^{\circ}\text{C}$, $V_D=12\text{V}$, $R_G=3\ \Omega$ | 20 | | 150 | mA |

Performance Curves

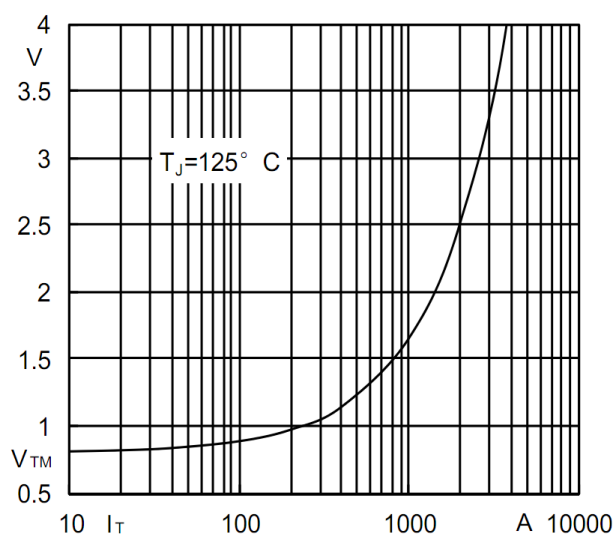


Fig1. Peak On-state Voltage Vs Peak On-state

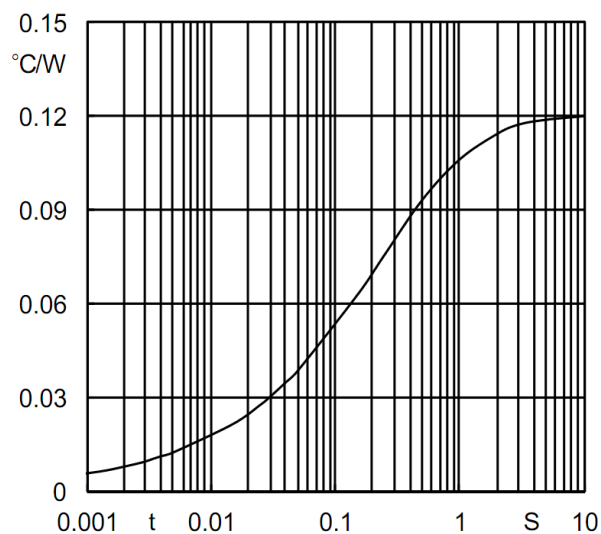


Fig2. Max. junction To case Thermal Impedance Vs Time

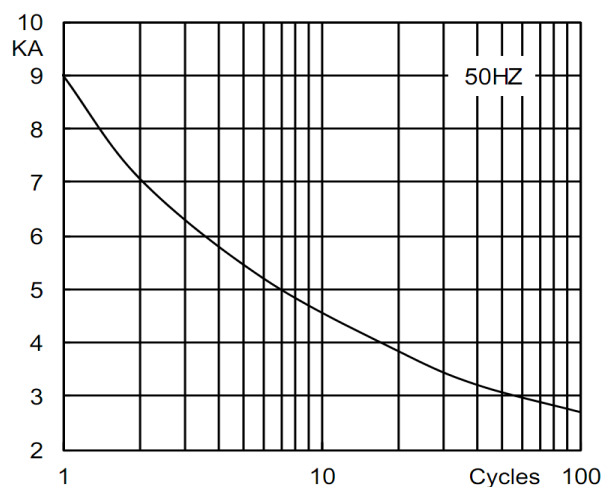


Fig3. Surge Current Vs Cycles

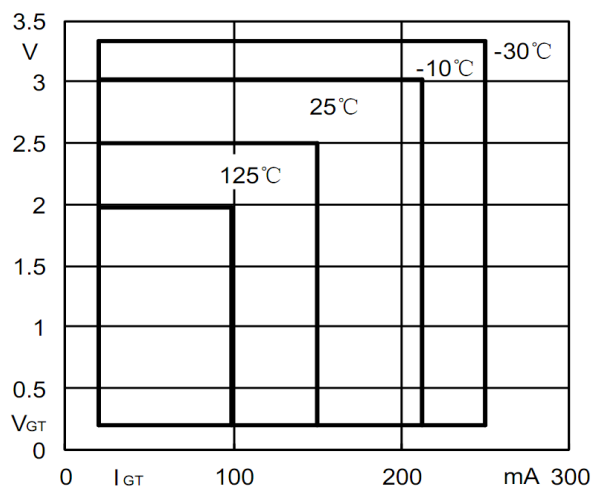


Fig4. Gate Trigger Zone at varies temperature

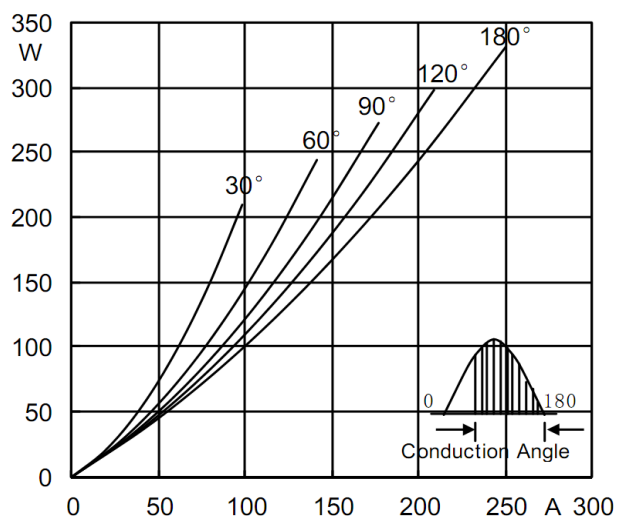


Fig5. Max. Power Dissipation Vs Mean On-state Current

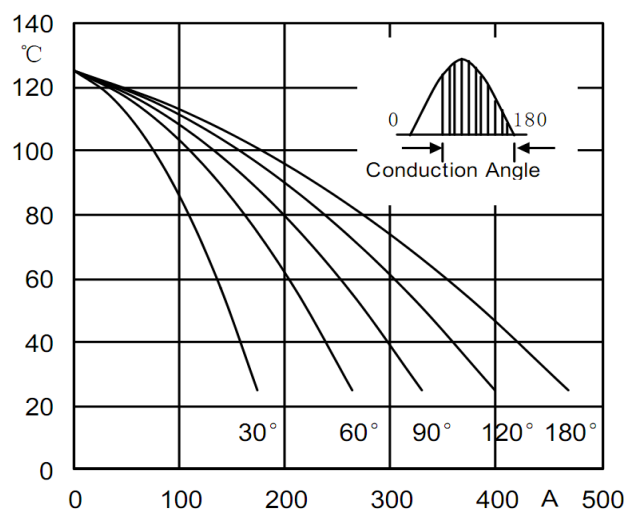


Fig6. Max case Temperature Vs Mean On-state Current

Ordering Information

| Device | Packing |
|----------------|---------------------------|
| Part Number-BP | Bulk: 6PCS/BOX ;18PCS/CTN |

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