

MODULES

DIODE-THYRISTORS

KEY FEATURES

- ◆ *Pressure contact technology*
- ◆ *Isolated copper base plate*
- ◆ *Highest reliability in hard operation conditions*
- ◆ *High power cycling capability (more than 100 000 cycles, $\Delta T = 100^{\circ}\text{C}$)*
- ◆ *Different circuits:*
 - single device;*
 - two devices in parallel; two devices in series or in opposite connection (with common cathode or with common anode);*
 - two devices in opposite parallel connection;*
 - AC switch with integrated liquid cooling*
- ◆ *Board range product:*
 - diode (rectifier, avalanche, fast recovery);*
 - thyristors (phase control, fast switching, optothyristor, triac)*

| | | | | | |
|----------------------|---|---|--|---|---|
| Case | MTD1 | MTD2 | MTD3 | MTD4 | MTD5 |
| |  |  |  |  |  |
| Base plate width, mm | 20 | 34 | 50 | 50 | 60 |
| Current, A | 40...80 | 100...160 | 125...320 | 250...630 | 500...1000 |
| Voltage, V | 400...1800 | 400...3200 | 400...3200 | 1200...4000 | 1200...4000 |
| Case | MTD6 | MTD7 | MTD8 | MTD3-1 | MTD5-1 |
| |  |  |  |  |  |
| Base plate width, mm | 70 | 77 | 90 | 50 | 60 |
| Current, A | 500...1000 | 400...1000 | 630...2000 | 800 | 1600 |
| Voltage, V | 1200...4400 | 1200...4400 | 1200...6500 | 400...1800 | 400...2200 |

Development and delivery of modules in accordance with Customer technical requirements



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MODULES

HIGH POWER DENSITY

BENEFITS

- ◆ Base plate width 90 mm (case MTD8)
- ◆ Insulation test voltage 4000 V RMS
- ◆ High values of overload on-state current
- ◆ Precision control of Q_{RR} and V_{TM}

TYPICAL APPLICATIONS

- ◆ Soft starters for AC motors
- ◆ Industrial AC and DC drives
- ◆ Rectifiers
- ◆ Traction



High power single switch

| Type | V_{DRM}, V_{RRM} | $I_{T(AV)}, I_{F(AV)}$ ($T_c, ^\circ C$) | I_{TSM}, I_{FSM} $t_p=10ms$ | $V_{T(TO)}, V_{TO}$ T_{Jmax} | r_T T_{Jmax} | $R_{th(j-c)}$ | T_{Jmax} | V_{isol} |
|------------|--------------------|---|----------------------------------|-----------------------------------|---------------------|---------------|------------|------------|
| | V | A | kA | V | m Ω | $^\circ C/W$ | $^\circ C$ | V (RMS) |
| M1T-1250 | 1800 | 1405(85) | 49 | 0.90 | 0.07 | 0.028 | 130 | 4000 |
| M1T2-1000 | 2400 | 1110(85) | 42 | 0.90 | 0.14 | 0.028 | 125 | 4000 |
| M1T3-800 | 4400 | 825(85) | 32 | 1.20 | 0.26 | 0.028 | 125 | 4000 |
| M1D-2000 | 2400 | 1540(100) | 55 | 0.82 | 0.09 | 0.028 | 150 | 4000 |
| M1D-1600 | 3400 | 1505(100) | 45 | 0.85 | 0.09 | 0.028 | 150 | 4000 |
| M1D-1250 | 4400 | 1195(100) | 35 | 0.90 | 0.20 | 0.028 | 150 | 4000 |
| M1D1-800* | 6500 | 990(100) | 30 | 0.90 | 0.22 | 0.028 | 140 | 6500 |
| M1TF-1250* | 2600 | 1325(70) | 45 | 1.12 | 0.21 | 0.025 | 130 | 4000 |
| M1DF-1250* | 2600 | 1315(90) | 50 | 1.00 | 0.16 | 0.025 | 140 | 4000 |

* new product



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