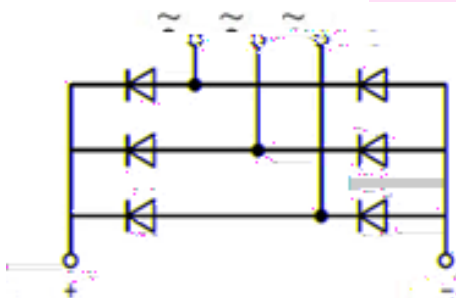




- Low forward voltage and leakage current
- Low inductance package
- High surge current capability

| $V_{RRM}$                | 2000 | V |
|--------------------------|------|---|
| $I_D(@T_C=100^{\circ}C)$ | 50   | A |
| $I_{FSM}(@t_p = 10ms)$   | 500  | A |
| $V_{FM}(Max)$            | 1.40 | V |

- Field supply for DC motors
- Line rectifiers for transistorized AC motor controllers
- Non-controllable rectifiers for AC/DC converter



(@  $T_C = 25^{\circ}C$  unless otherwise specified)

| Repetitive peak reverse voltage     | $T_{vj} = 25^{\circ}C$                      | $V_{RRM}$ | 2000       | V      |
|-------------------------------------|---------------------------------------------|-----------|------------|--------|
| Non-repetitive peak reverse voltage | $T_{vj} = 25^{\circ}C$                      | $V_{RSM}$ | 2100       | V      |
| Average forward current             | $T_C = 100^{\circ}C$                        | $I_D$     | 50         | A      |
| Forward surge current               | 1/2 cycle, Sine wave, 50Hz<br>$T_{vj} = 25$ | $I_{FSM}$ | 500        | A      |
| $I^2t$ value for fusing             |                                             | $I^2t$    | 1250       | $A^2s$ |
| RMS isolation voltage               | A.C 50Hz(1s/1min)                           | $V_{ISO}$ | 3600/3000  | V      |
| Junction temperature range          |                                             | $T_{vj}$  | -40 ~ +150 |        |
| Storage temperature range           |                                             | $T_{stg}$ | -40 ~ +125 |        |



(@  $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

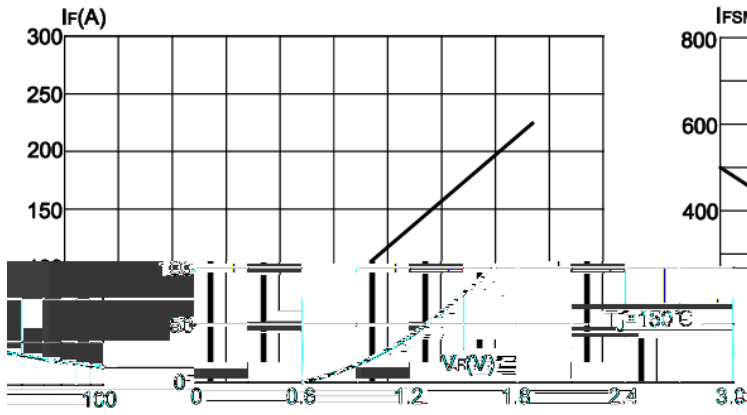
| Peak forward voltage    | $I_F=50\text{A}$ , $t_P=380\mu\text{s}$             | $V_{FM}$  |  | 1.20 | 1.40 | V          |
|-------------------------|-----------------------------------------------------|-----------|--|------|------|------------|
| Reverse leakage current | $V_R = V_{RRM}$ , $T_{vj} = 25$                     | $I_{RRM}$ |  |      | 0.2  | mA         |
|                         | $V_R = V_{RRM}$ , $T_{vj} = 150$                    |           |  |      | 3    | mA         |
| Threshold voltage       | $T_{vj} = 150$ ,<br>for power loss calculation only | $V_{TO}$  |  |      | 0.95 | V          |
| Dynamic resistance      |                                                     | $r_T$     |  |      | 7.0  | m $\Omega$ |

(@  $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

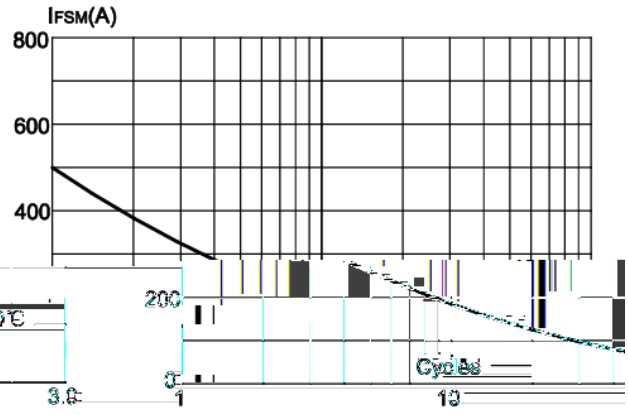
| Thermal resistance,<br>junction to case | per diode                           | $R_{th(j-c)}$ |     |  | 1.5 | K/W |
|-----------------------------------------|-------------------------------------|---------------|-----|--|-----|-----|
| Thermal resistance,<br>case to heatsink | per module                          | $R_{th(c-s)}$ |     |  | 0.2 | K/W |
| Mounting torque                         | Module and heatsink fixed<br>torque | M             | 2.5 |  | 3.5 | N m |

| JMD50TD20D0 | JMD50TD20D0 | D0 | 78g/PCS | 28PCS | 140PCS |
|-------------|-------------|----|---------|-------|--------|

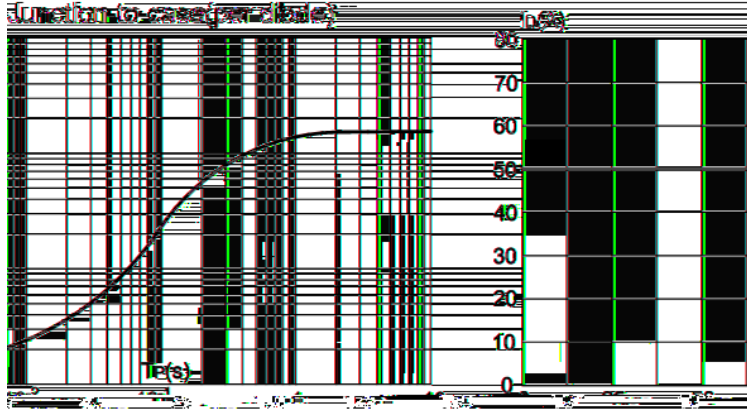
**FIG.1: Forward characteristics(per diode)**



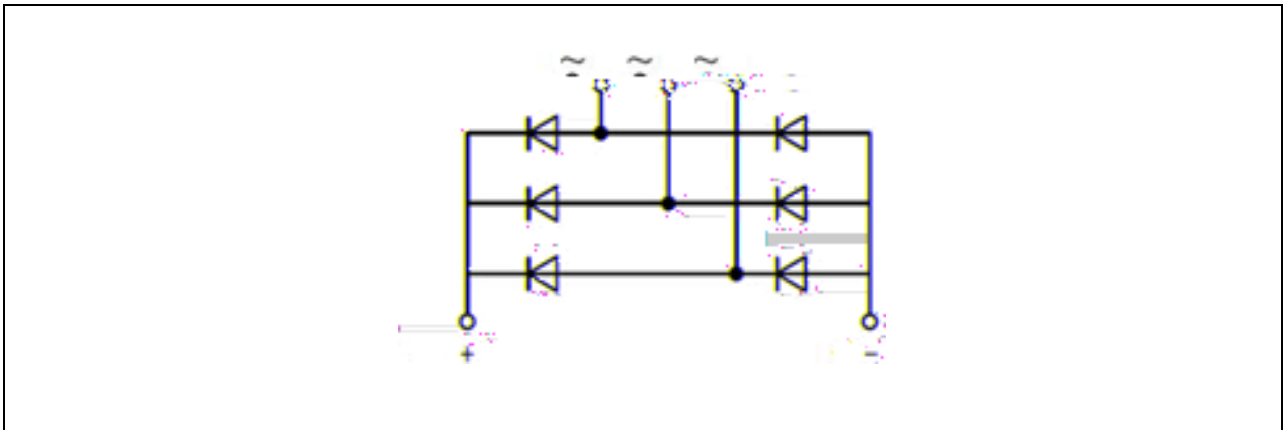
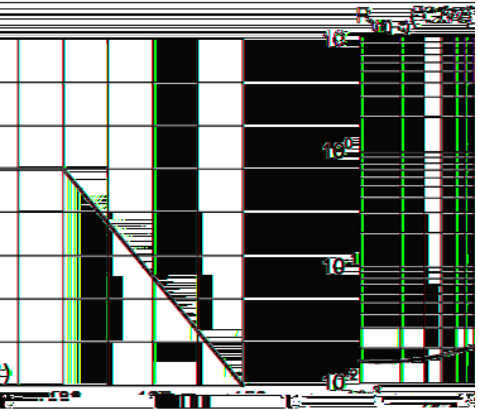
**FIG.2: Peak on-state surge current**

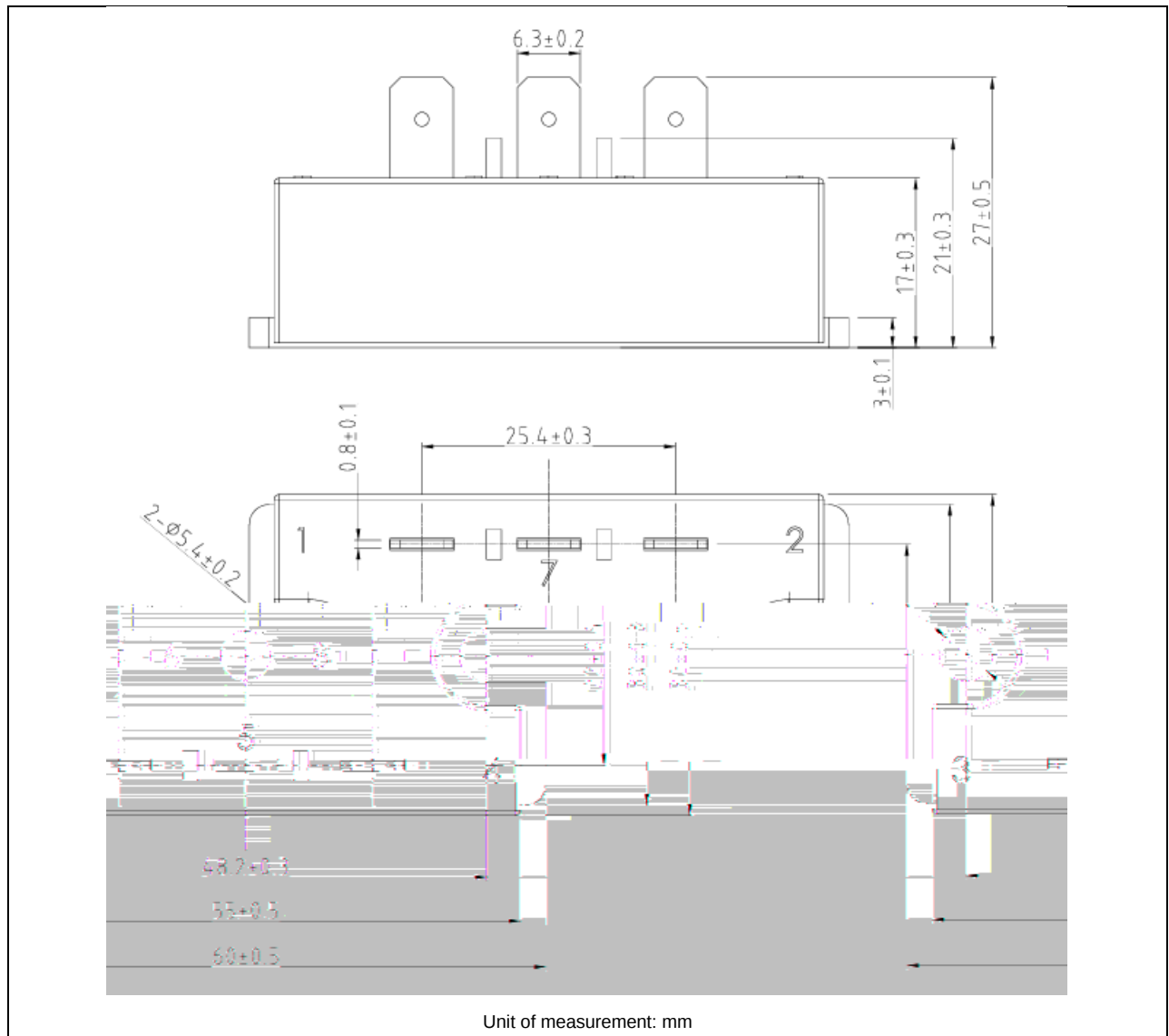


**FIG.3: Forward average case temperature**



**FIG.4: Maximum transient thermal impedance**







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