

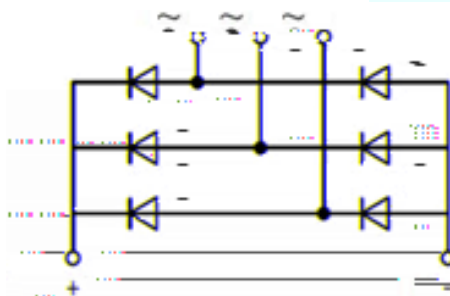


- Low forward voltage and leakage current
- Low inductance package
- High surge current capability

| $V_{RRM}$                | 1600 | V |
|--------------------------|------|---|
| $I_D(@T_C=100^{\circ}C)$ | 50   | A |
| $I_{FSM}(@t_p = 10ms)$   | 500  | A |
| $V_{FM}(Max)$            | 1.40 | V |

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



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

|                                     | (                                           |           |            |        |
|-------------------------------------|---------------------------------------------|-----------|------------|--------|
| Repetitive peak reverse voltage     | $T_{vj} = 25^{\circ}C$                      | $V_{RRM}$ | 1600       | V      |
| Non-repetitive peak reverse voltage | $T_{vj} = 25^{\circ}C$                      | $V_{RSM}$ | 1700       | 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<sub>C</sub> = 25 °C unless otherwise specified)

| Peak forward voltage    | I <sub>F</sub> =50A, t <sub>P</sub> =380μs                 | V <sub>FM</sub>  |  | 1.20 | 1.40 | V  |
|-------------------------|------------------------------------------------------------|------------------|--|------|------|----|
| Reverse leakage current | V <sub>R</sub> = V <sub>RRM</sub> , T <sub>vj</sub> = 25   | I <sub>RRM</sub> |  |      | 0.2  | mA |
|                         | V <sub>R</sub> = V <sub>RRM</sub> , T <sub>vj</sub> = 150  |                  |  |      | 3    | mA |
| Threshold voltage       | T <sub>vj</sub> = 150 ,<br>for power loss calculation only | V <sub>TO</sub>  |  |      | 0.95 | V  |
| Dynamic resistance      |                                                            | r <sub>T</sub>   |  |      | 7.0  | mΩ |

( (@ T<sub>C</sub> = 25 °C unless otherwise specified)

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

| JMD50TD16D0 | JMD50TD16D0 | D0 | 78g/PCS | 28PCS | 140PCS |
|-------------|-------------|----|---------|-------|--------|

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

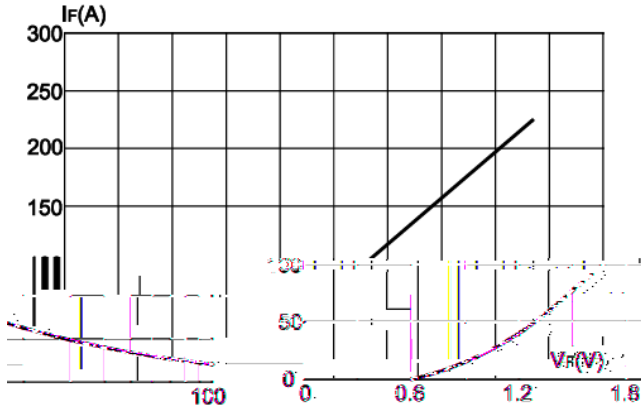
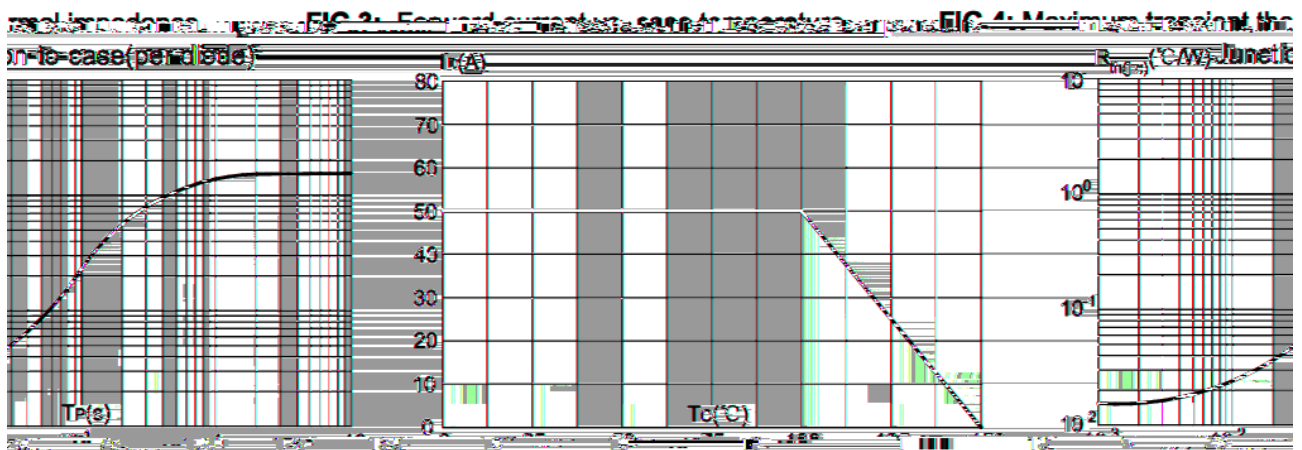
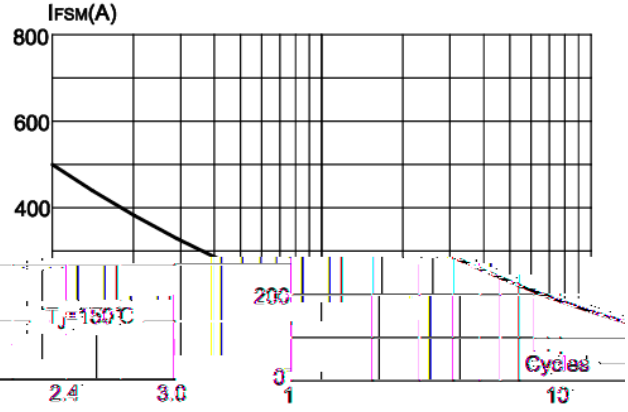
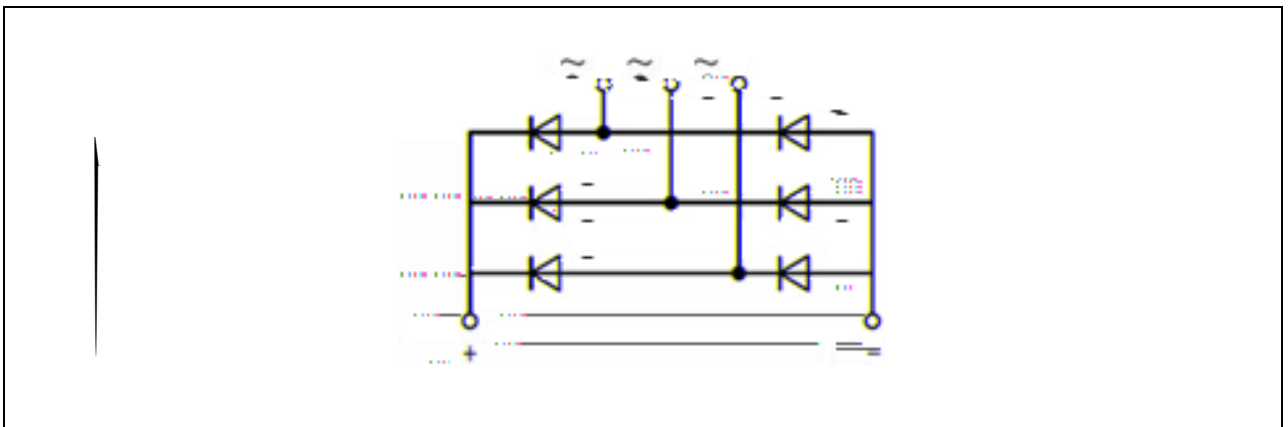
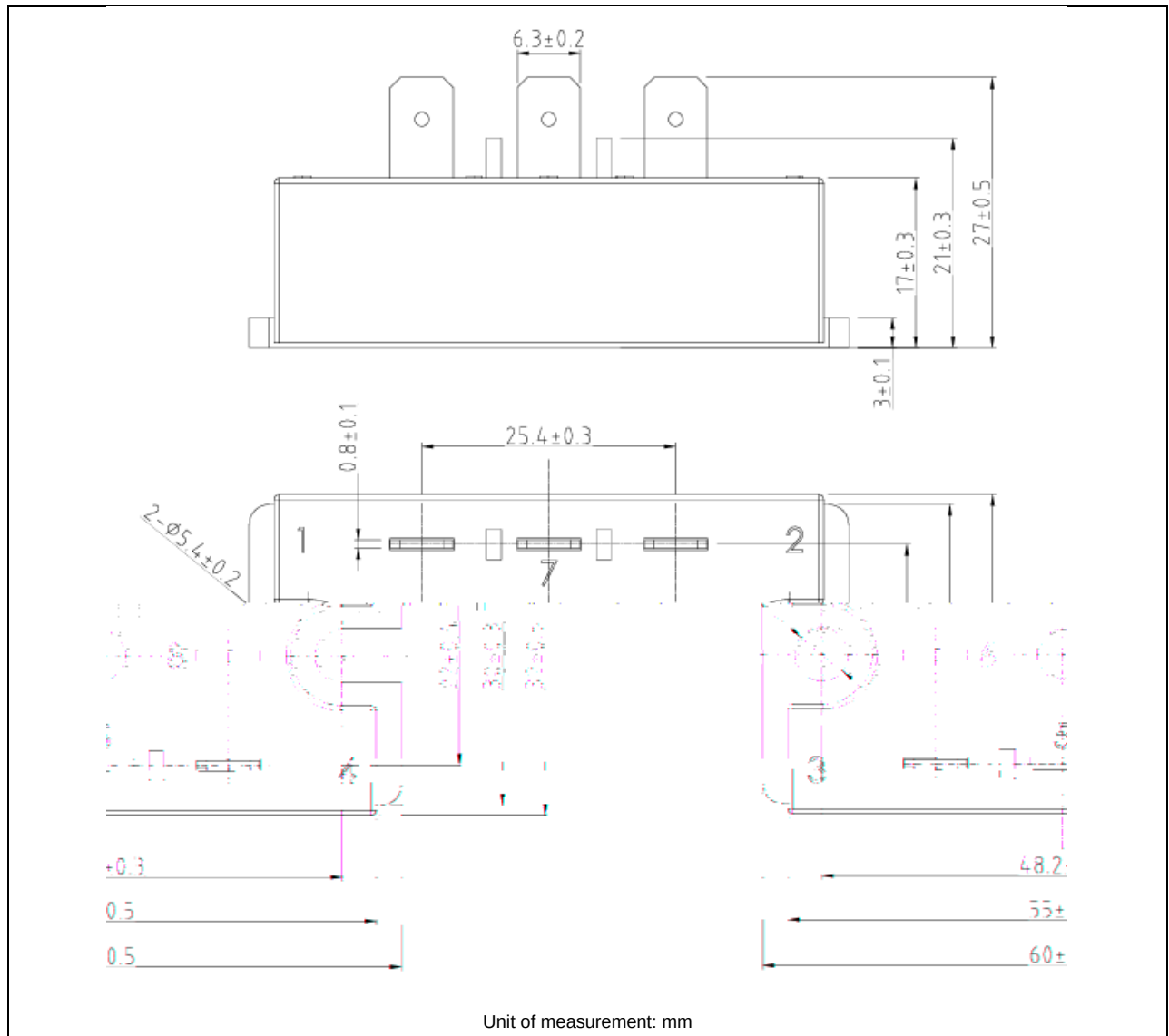


**FIG.2: Peak on-state surge current**



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