



## Glass Passivated Rectifier Diode Modules

**V<sub>RRM</sub>** 800 to 1800V

**I<sub>FAV</sub>** 165 Amp

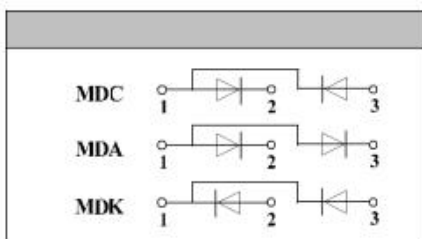
### Applications

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

### Features

- ☑ Blocking voltage: 800 to 1800V
- ☑ Heat transfer through aluminum oxide ceramic isolated metal baseplate
- ☑ Glass passivated chip

### Circuit



### Module Type

| TYPE      |           |           | V <sub>RRM</sub> | V <sub>RSM</sub> |
|-----------|-----------|-----------|------------------|------------------|
| MDK165-08 | MDA165-08 | MDC165-08 | 800V             | 900V             |
| MDK165-12 | MDA165-12 | MDC165-12 | 1200V            | 1300V            |
| MDK165-16 | MDA165-16 | MDC165-16 | 1600V            | 1700V            |
| MDK165-18 | MDA165-18 | MDC165-18 | 1800V            | 1900V            |

### Maximum Ratings

| Symbol            | Conditions                   | Values     | Units            |
|-------------------|------------------------------|------------|------------------|
| I <sub>FAV</sub>  | T <sub>c</sub> =100°C        | 165        | A                |
| I <sub>FSM</sub>  | t=10mS T <sub>vj</sub> =45°C | 6000       | A                |
| i <sup>2</sup> t  | t=10mS T <sub>vj</sub> =45°C | 180000     | A <sup>2</sup> s |
| V <sub>isol</sub> | a.c.50Hz;r.m.s.;1min         | 3000       | V                |
| T <sub>vj</sub>   |                              | -40 to 150 | °C               |
| T <sub>stg</sub>  |                              | -40 to 125 | °C               |
| M <sub>t</sub>    | To terminals(M6)             | 5±15%      | Nm               |
| M <sub>s</sub>    | To heatsink(M6)              | 5±15%      | Nm               |
| Weight            | Module                       | 160        | g                |

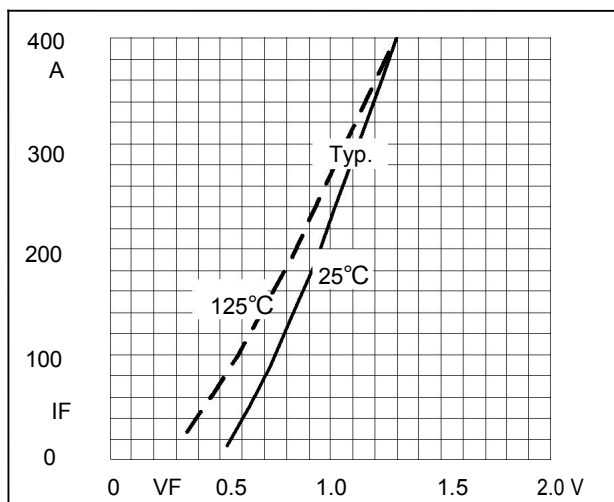
### Thermal Characteristics

| Symbol               | Conditions | Values | Units |
|----------------------|------------|--------|-------|
| R <sub>th(j-c)</sub> | Per diode  | 0.18   | °C/W  |
| R <sub>th(c-s)</sub> | Module     | 0.05   | °C/W  |

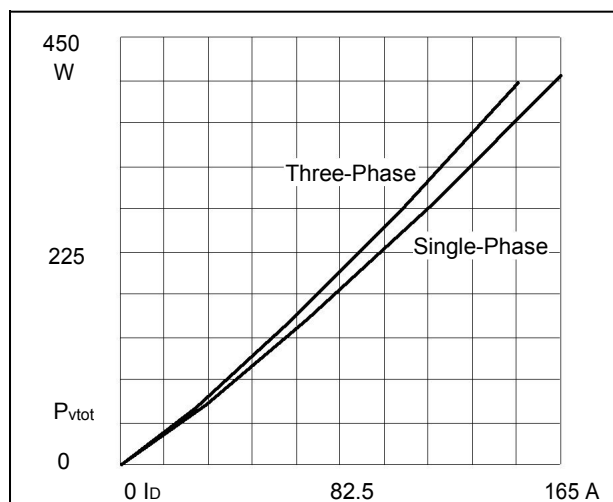
### Electrical Characteristics

| Symbol          | Conditions                                                          | Values | Units |
|-----------------|---------------------------------------------------------------------|--------|-------|
| V <sub>FM</sub> | T=25°C I <sub>FM</sub> =300A                                        | 1.4    | V     |
| I <sub>RD</sub> | T <sub>vj</sub> =T <sub>vjM</sub> V <sub>RD</sub> =V <sub>RRM</sub> | ≤9     | mA    |

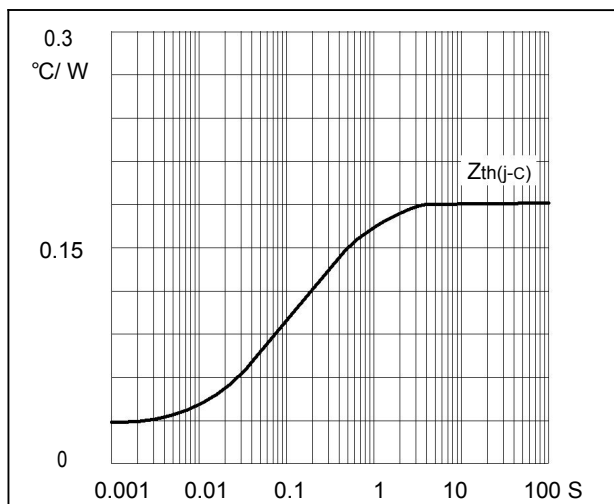
## Performance Curves



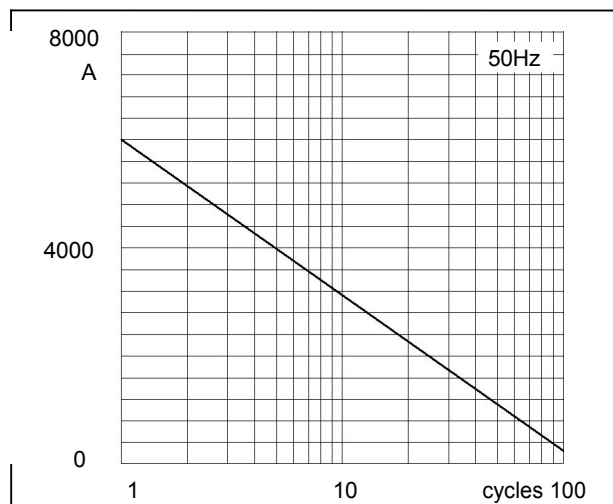
**Fig1. Forward Characteristics**



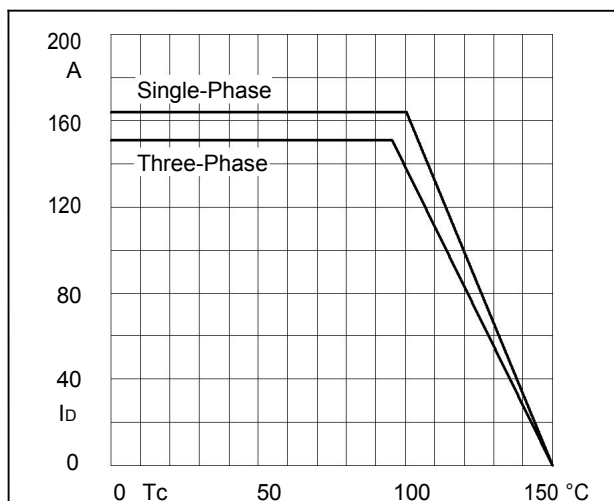
**Fig2. Power dissipation**



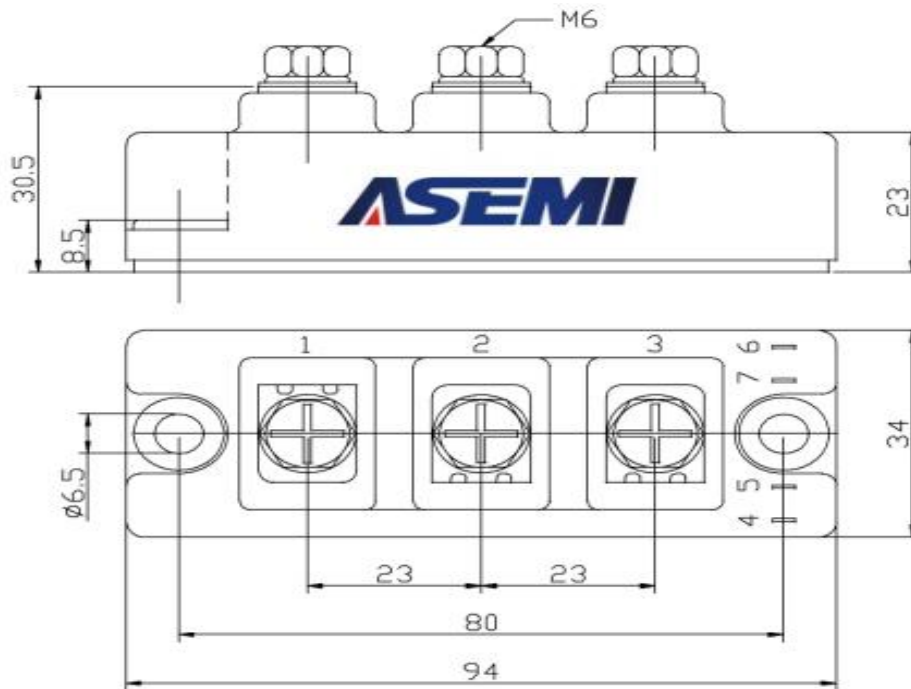
**Fig3. Transient thermal impedance**



**Fig4. Max Non-Repetitive Forward Surge Current**



**Fig5. Forward Current Derating Curve**

**Package Outline Information****CASE: D2****Dimensions in mm**