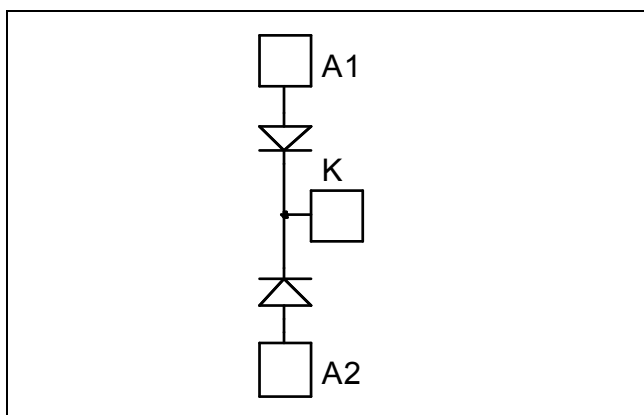


## Dual Common Cathode diodes Power Module

$$V_{RRM} = 1700V$$

$$I_C = 400A @ T_c = 55^{\circ}C$$



### Application

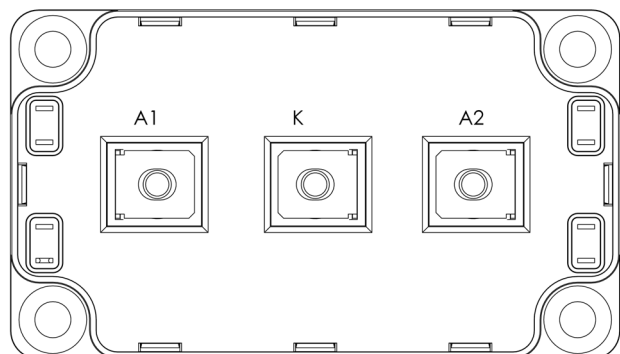
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

### Features

- Ultra fast recovery times
- Soft recovery characteristics
- High blocking voltage
- High current
- Low leakage current
- Very low stray inductance
  - Symmetrical design
  - M5 power connectors
- High level of integration

### Benefits

- Outstanding performance at high frequency operation
- Low losses
- Low noise switching
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- RoHS Compliant



### Absolute maximum ratings

| <i>Symbol</i>       | <i>Parameter</i>                        |                  |                       | <i>Max ratings</i> | <i>Unit</i> |
|---------------------|-----------------------------------------|------------------|-----------------------|--------------------|-------------|
| V <sub>R</sub>      | Maximum DC reverse Voltage              |                  |                       | 1700               | V           |
| V <sub>RRM</sub>    | Maximum Peak Repetitive Reverse Voltage |                  |                       |                    |             |
| I <sub>F(AV)</sub>  | Maximum Average Forward Current         | Duty cycle = 50% | T <sub>c</sub> = 25°C | 480                | A           |
|                     |                                         |                  | T <sub>c</sub> = 55°C | 400                |             |
| I <sub>F(RMS)</sub> | RMS Forward Current                     |                  | 500                   |                    |             |
| I <sub>FSM</sub>    | Non-Repetitive Forward Surge Current    |                  | T <sub>j</sub> = 25°C | 1500               |             |



**CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on [www.microsemi.com](http://www.microsemi.com)

**All ratings @  $T_j = 25^\circ\text{C}$  unless otherwise specified**

**Electrical Characteristics**

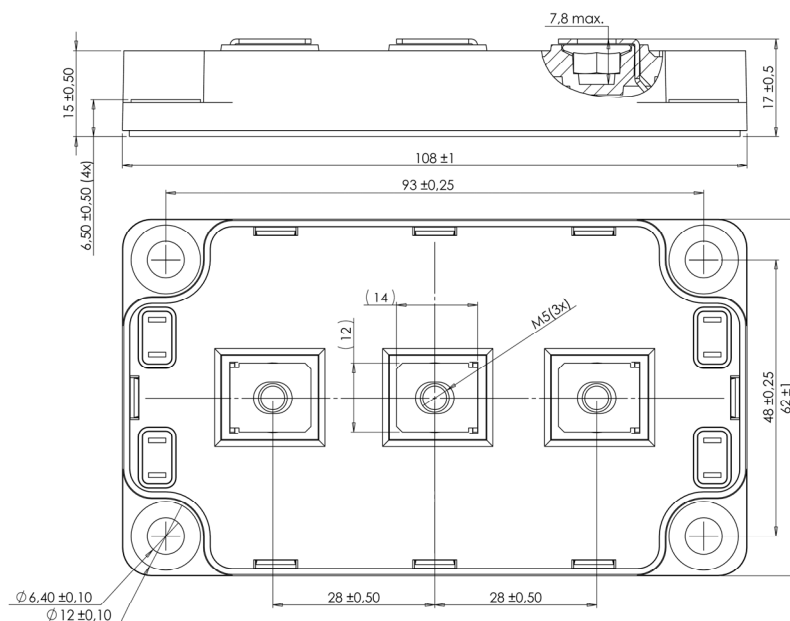
| Symbol          | Characteristic                  | Test Conditions        |                        | Min | Typ | Max  | Unit |
|-----------------|---------------------------------|------------------------|------------------------|-----|-----|------|------|
| V <sub>F</sub>  | Diode Forward Voltage           | I <sub>F</sub> = 400A  | T <sub>i</sub> = 25°C  |     | 2.2 | 2.5  | V    |
|                 |                                 |                        | T <sub>i</sub> = 125°C |     | 2.1 |      |      |
| I <sub>RM</sub> | Maximum Reverse Leakage Current | V <sub>R</sub> = 1700V | T <sub>i</sub> = 25°C  |     |     | 750  | μA   |
|                 |                                 |                        | T <sub>i</sub> = 125°C |     |     | 1000 |      |

**Dynamic Characteristics**

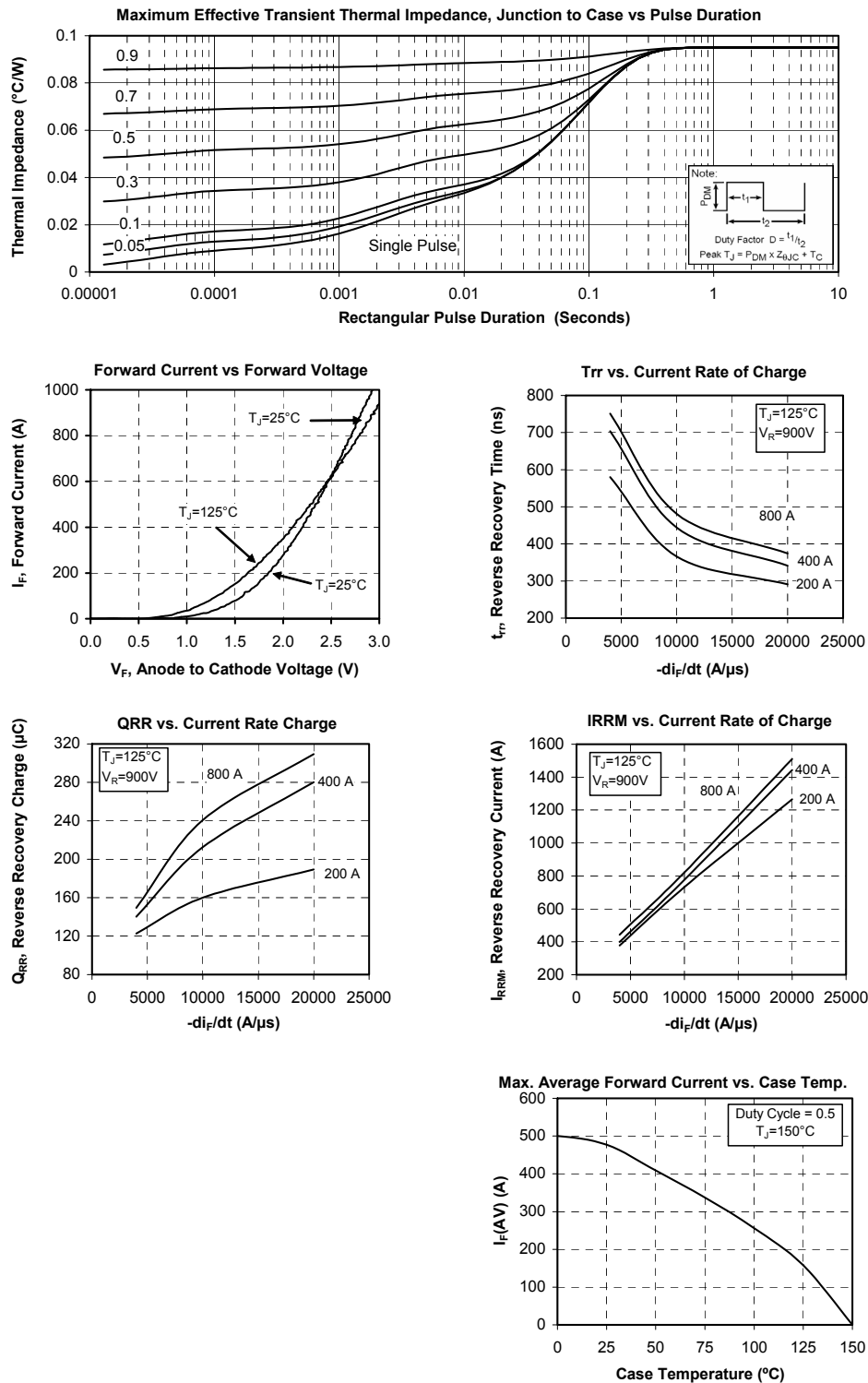
| Symbol           | Characteristic           | Test Conditions                                                    |                        | Min | Typ | Max | Unit |
|------------------|--------------------------|--------------------------------------------------------------------|------------------------|-----|-----|-----|------|
| t <sub>rr</sub>  | Reverse Recovery Time    | I <sub>F</sub> = 400A<br>V <sub>R</sub> = 900V<br>di/dt = 4000A/μs | T <sub>j</sub> = 25°C  |     | 572 |     | ns   |
|                  |                          |                                                                    | T <sub>j</sub> = 125°C |     | 704 |     |      |
| Q <sub>rr</sub>  | Reverse Recovery Charge  |                                                                    | T <sub>j</sub> = 25°C  |     | 80  |     | μC   |
|                  |                          |                                                                    | T <sub>j</sub> = 125°C |     | 140 |     |      |
| I <sub>RRM</sub> | Reverse Recovery Current |                                                                    | T <sub>j</sub> = 25°C  |     | 280 |     | A    |
|                  |                          |                                                                    | T <sub>j</sub> = 125°C |     | 400 |     |      |

**Thermal and package characteristics**

| Symbol     | Characteristic                                                           | Min           | Typ | Max   | Unit                      |
|------------|--------------------------------------------------------------------------|---------------|-----|-------|---------------------------|
| $R_{thJC}$ | Junction to Case Thermal Resistance                                      |               |     | 0.095 | $^\circ\text{C}/\text{W}$ |
| $V_{ISOL}$ | RMS Isolation Voltage, any terminal to case $t = 1\text{ min}$ , 50/60Hz | 4000          |     |       | V                         |
| $T_j$      | Operating junction temperature range                                     | -40           |     | 150   | $^\circ\text{C}$          |
| $T_{STG}$  | Storage Temperature Range                                                | -40           |     | 125   |                           |
| $T_C$      | Operating Case Temperature                                               | -40           |     | 100   |                           |
| Torque     | Mounting torque                                                          | To heatsink   | M6  | 3     | N.m                       |
|            |                                                                          | For terminals | M5  | 2     |                           |
| Wt         | Package Weight                                                           |               |     | 300   | g                         |

**SP6 Package outline (dimensions in mm)**


## Typical Performance Curve



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