

## MF35-1600R

### FAST RECOVERY DIODE

#### Features

- Fast recovery diode
- Short reverse recovery time
- Wide current range
- Stud anode version
- Available in metric and UNF thread
- DO-5 – 1/4" 28UNF-2A
- Compliance to RoHS



#### Typical applications

- Low stored charges
- Power supplies
- High frequency Applications

#### ELECTRICAL SPECIFICATIONS ( T<sub>e</sub> = 25°C)

| Symbol             | Ratings                                  |                                  | Value  | Unit |
|--------------------|--|----------------------------------|--------|------|
| V <sub>RRM</sub>   | Repetitive peak reverse blocking voltage | T <sub>j</sub> = - 20 to +125 °C | ≥ 1600 | V    |
| V <sub>RSM</sub>   | Non-repetitive peak voltage              |                                  | ≥ 1600 | V    |
| I <sub>F(AV)</sub> | average forward current                  | T <sub>c</sub> = 65 °C           | ≥ 28   | A    |

#### THERMAL CHARACTERISTICS

| Symbol            | Ratings                                      | Value      | Unit |
|-------------------|--|------------|------|
| R <sub>thcs</sub> | Maximum thermal resistance, case to heatsink | ≤ 0.2      | °C/W |
| R <sub>thJC</sub> | Maximum thermal resistance, junction to case | ≤ 1.2      | °C/W |
| T <sub>J</sub>    | Operating junction temperature range         | -20 to 125 | °C   |
| F                 | Maximum mounting torque                      | 4          | mN   |



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### ELECTRICAL CHARACTERISTICS

TE=25°C unless otherwise noted

| Symbol       | Ratings                                  | Test Condition(s)  | Min  | Typ | Max | Unit               |
|--------------|--|--|------|-----|-----|--------------------|
| $V_{RRM}$    | Repetitive peak reverse blocking voltage | $T_j = -20^{\circ}\text{C to } +125^{\circ}\text{C}$     | 1600 | -   | -   | V                  |
| $V_{RSM}$    | Non-repetitive peak voltage              |  | 1600 | -   | -   | V                  |
| $I_{RRM}$    | Reverse leakage current                  | $V_{RRM} = 1400\text{ V}$<br>$T_j = 125^{\circ}\text{C}$ | -    | -   | 5   | mA                 |
| $I_{F(AV)}$  | average forward current                  | $T_C = 65^{\circ}\text{C}$                               | 28   | -   | -   | A                  |
| $I_{F(RMS)}$ | RMS forward current                      |  | 40   | -   | -   | A                  |
| $I_{FSM}$    | Single cycle surge current               | $T_C = 125^{\circ}\text{C}$                              | 400  | -   | -   | A                  |
| $V_t$        | Forward voltage drop                     | at 120 A<br>$T_j = 25^{\circ}\text{C}$                   | -    | -   | 2.2 | V                  |
| $I^2t$       | $I^2t$ for fusing                        | $T_j = 125^{\circ}\text{C}$                              | 800  | -   | -   | A <sup>2</sup> sec |

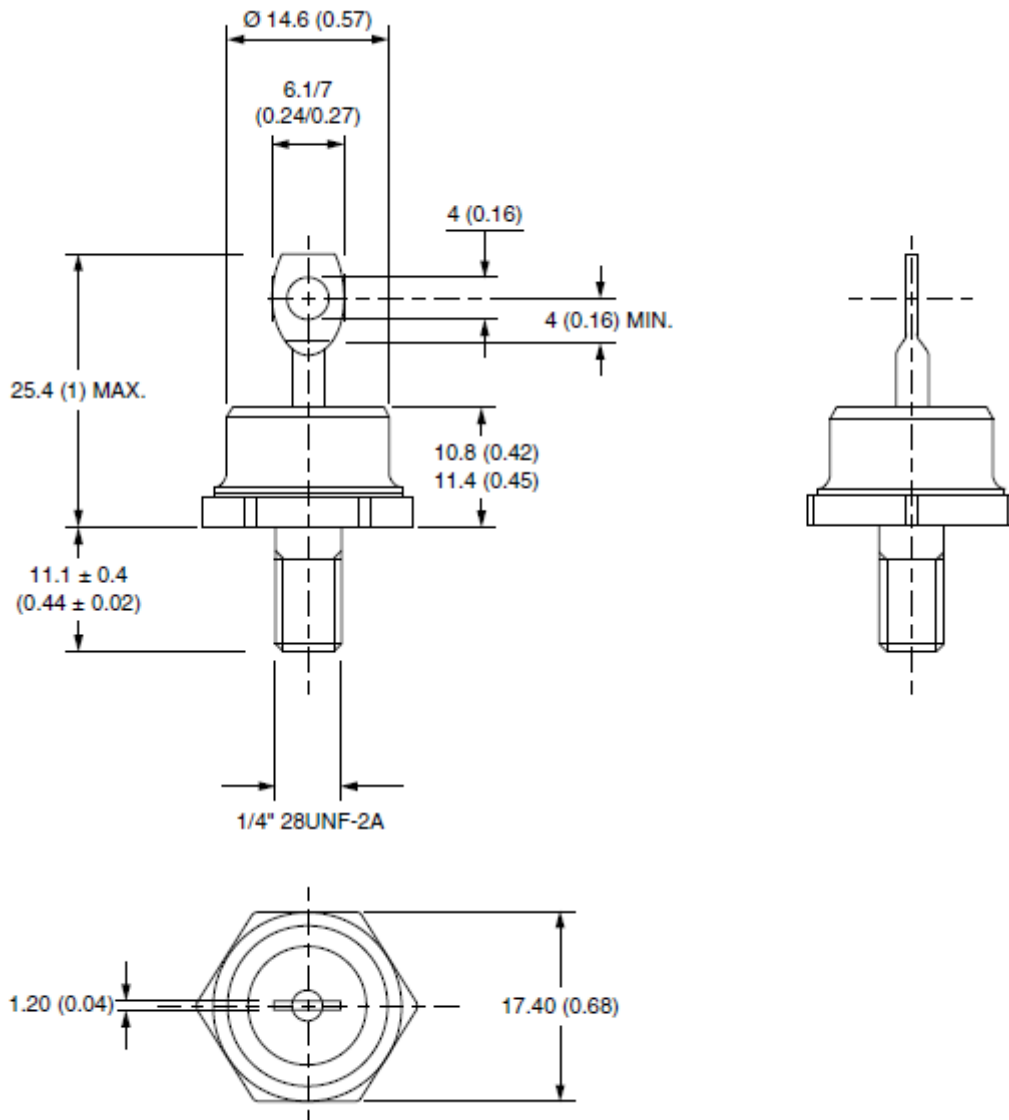
### SWITCHING

| Symbol   | Ratings                  | Test Condition(s)  | Min | Typ | Max | Unit            |
|----------|--------------------------|--|-----|-----|-----|-----------------|
| $t_{rr}$ | Maximum recovery time    | $I_F = 1\text{ A}$ ,<br>$di/dt = -25\text{ A}/\mu\text{sec}$   | -   | -   | 0.3 | $\mu\text{sec}$ |
| $I_{rr}$ | Reverse recovery current | $T_j = -25^{\circ}\text{C to } +125^{\circ}\text{C}$   | -   | -   | 52  | A               |
| $Q_r$    | Recovered charge         | $I_F = 50\text{ A}$ , $V_R = 100\text{ V}$<br>$di/dt = 50\text{ A}/\mu\text{sec}$<br>$T_C = -25^{\circ}\text{C}$ | -   | -   | 10  | $\mu\text{C}$   |



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### MECHANICAL DATA CASE DO-5 in millimeters (inches)



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