

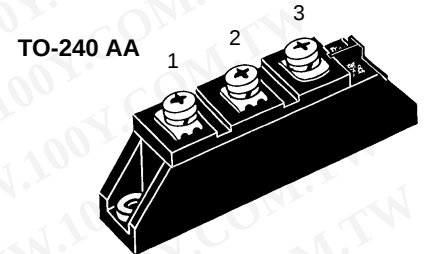
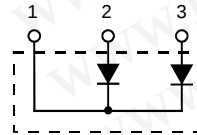
# Fast Recovery Epitaxial Diode (FRED) Module

MEK 150-04 DA

$V_{RRM} = 400\text{ V}$   
 $I_{FAV} = 150\text{ A}$   
 $t_{rr} = 300\text{ ns}$

Preliminary data

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type         |
|----------------|----------------|--------------|
| 400            | 400            | MEK 150-04DA |



| Symbol     | Conditions                                                     | Maximum Ratings            |                        |
|------------|----------------------------------------------------------------|----------------------------|------------------------|
| $I_{FRMS}$ | $T_C = 100^\circ\text{C}$ ; rectangular, $d = 0.5$             | 200                        | A                      |
| $I_{FAVM}$ |                                                                | 150                        | A                      |
| $I_{FSM}$  | $T_{VJ} = 45^\circ\text{C}$ ; $t = 10\text{ ms}$ (50 Hz), sine | 1200                       | A                      |
| $T_{VJ}$   | $T_C = 25^\circ\text{C}$                                       | -40...+150                 | $^\circ\text{C}$       |
| $T_{VJM}$  |                                                                | 175                        | $^\circ\text{C}$       |
| $T_{stg}$  |                                                                | -40...+150                 | $^\circ\text{C}$       |
| $P_{tot}$  | $T_C = 25^\circ\text{C}$                                       | 360                        | W                      |
| $V_{ISOL}$ | 50/60 Hz, RMS; $I_{ISOL} \leq 1\text{ mA}$                     | 3600                       | V~                     |
| $M_d$      | Mounting torque with screw M5<br>Terminal connection torque    | 2.5-4/22-35<br>2.5-4/22-35 | Nm/lb.in.<br>Nm/lb.in. |
| Weight     | typical                                                        | 90                         | g                      |

| Symbol                   | Conditions                                                                                                          | Characteristic Values |            |            |
|--------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------|------------|
|                          |                                                                                                                     | typ.                  | max.       |            |
| $I_R$                    | $T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$<br>$T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$                         |                       | 2.0<br>8.5 | mA<br>mA   |
| $V_F$                    | $I_F = 300\text{ A}$ ; $T_{VJ} = 150^\circ\text{C}$<br>$T_{VJ} = 25^\circ\text{C}$                                  |                       | 1.4<br>1.6 | V<br>V     |
| $R_{thJC}$<br>$R_{thCH}$ |                                                                                                                     | 0.08                  | 0.35       | K/W<br>K/W |
| $I_{RM}$                 | $V_R = 100\text{ V}$ ; $I_F = 200\text{ A}$ ; $-di_F/dt = 100\text{ A}/\mu\text{s}$<br>$T_{VJ} = 100^\circ\text{C}$ | 11                    | 14         | A          |

## Features

- International standard package with DCB ceramic base plate
- Planar passivated chips
- Short recovery time
- Low switching losses
- Soft recovery behaviour
- Isolation voltage 3600 V~
- UL registered E 72873

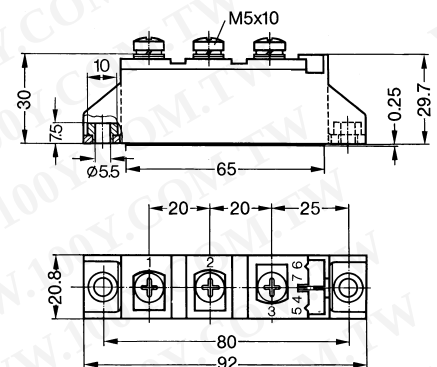
## Applications

- Antiparallel diode for high frequency switching devices
- Free wheeling diode in converters and motor control circuits
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

## Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

## Dimensions in mm (1 mm = 0.0394")



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