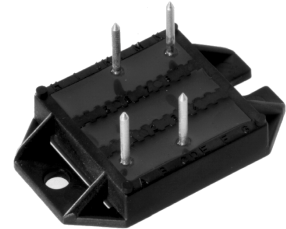
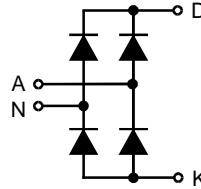


# Single Phase Rectifier Bridge

**$I_{dAVM} = 54 \text{ A}$**   
 **$V_{RRM} = 800-1600 \text{ V}$**

Preliminary data

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type         |
|----------------|----------------|--------------|
| 900            | 800            | VBO 54-08NO7 |
| 1300           | 1200           | VBO 54-12NO7 |
| 1500           | 1400           | VBO 54-14NO7 |
| 1700           | 1600           | VBO 54-16NO7 |



| Symbol              | Test Conditions                            | Maximum Ratings                                                                               |
|---------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------|
| $I_{dAV} \text{ ①}$ | $T_C = 100^\circ\text{C}$ , module         | 54 A                                                                                          |
| $I_{FSM}$           | $T_{VJ} = 45^\circ\text{C}$ ;<br>$V_R = 0$ | t = 10 ms (50 Hz), sine 300 A<br>t = 8.3 ms (60 Hz), sine 320 A                               |
|                     | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | t = 10 ms (50 Hz), sine 260 A<br>t = 8.3 ms (60 Hz), sine 280 A                               |
| $I^2t$              | $T_{VJ} = 45^\circ\text{C}$<br>$V_R = 0$   | t = 10 ms (50 Hz), sine 450 A <sup>2</sup> s<br>t = 8.3 ms (60 Hz), sine 425 A <sup>2</sup> s |
|                     | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | t = 10 ms (50 Hz), sine 340 A <sup>2</sup> s<br>t = 8.3 ms (60 Hz), sine 325 A <sup>2</sup> s |
| $T_{VJ}$            |                                            | -40...+150 °C                                                                                 |
| $T_{VJM}$           |                                            | 150 °C                                                                                        |
| $T_{stg}$           |                                            | -40...+125 °C                                                                                 |
| $V_{ISOL}$          | 50/60 Hz, RMS t = 1 min                    | 2500 V~                                                                                       |
|                     | $I_{ISOL} \leq 1 \text{ mA}$ t = 1 s       | 3000 V~                                                                                       |
| $M_d$               | Mounting torque (M4)                       | 1.5 - 2 Nm<br>14 - 18 lb.in.                                                                  |
| Weight              | typ.                                       | 18 g                                                                                          |

### Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

### Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

### Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- Small and light weight

| Symbol     | Test Conditions                                       | Characteristic Values |
|------------|-------------------------------------------------------|-----------------------|
| $I_R$      | $V_R = V_{RRM1}$ ;<br>$T_{VJ} = 25^\circ\text{C}$     | $\leq 0.5 \text{ mA}$ |
|            | $V_R = V_{RRM2}$ ;<br>$T_{VJ} = T_{VJM}$              | $\leq 3 \text{ mA}$   |
| $V_F$      | $I_F = 55 \text{ A}$ ;<br>$T_{VJ} = 25^\circ\text{C}$ | $\leq 1.46 \text{ V}$ |
| $V_{T0}$   | For power-loss calculations only                      | 0.8 V                 |
| $r_T$      |                                                       | 13 mΩ                 |
| $R_{thJC}$ | per diode; DC current                                 | 1.1 K/W               |
|            | per module                                            | 0.28 K/W              |
| $R_{thJH}$ | per diode; DC current                                 | 1.6 K/W               |
|            | per module                                            | 0.4 K/W               |
| $d_s$      | Creeping distance on surface                          | 11.2 mm               |
| $d_A$      | Creepage distance in air                              | 9.7 mm                |
| $a$        | Max. allowable acceleration                           | 50 m/s <sup>2</sup>   |

Data according to IEC 60747 refer to a single diode unless otherwise stated  
 ① for resistive load at bridge output.

IXYS reserves the right to change limits, test conditions and dimensions.

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

